US008419519B2

(12) **United States Patent**
Aoki et al.

(10) **Patent No.: US 8,419,519 B2**
(45) **Date of Patent: Apr. 16, 2013**

(54) **WAGERING GAME WITH SYMBOLS FORMING AN ALTERED ARRAY OR SECONDARY ARRAY**

(75) Inventors: **Dion K Aoki**, Henderson, NV (US); **Allon G. Englman**, Chicago, IL (US); **Joel R. Jaffe**, Glenview, IL (US); **Shridhar P. Joshi**, Naperville, IL (US); **Larry J. Pacey**, Chicago, IL (US); **Alfred Thomas**, Las Vegas, NV (US)

(73) Assignee: **WMS Gaming Inc.**, Waukegan, IL (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 684 days.

(21) Appl. No.: **12/299,567**

(22) PCT Filed: **May 3, 2007**

(86) PCT No.: **PCT/US2007/010616**

§ 371 (c)(1),
(2), (4) Date: **Nov. 4, 2008**

(87) PCT Pub. No.: **WO2007/130444**

PCT Pub. Date: **Nov. 15, 2007**

(65) **Prior Publication Data**

US 2009/0239631 A1 Sep. 24, 2009

Related U.S. Application Data

(60) Provisional application No. 60/797,600, filed on May 4, 2006.

(51) **Int. Cl.**
A63F 13/00 (2006.01)

(52) **U.S. Cl.**
USPC **463/16**; 463/17; 463/18; 463/19; 463/20

(58) **Field of Classification Search** 463/16–20
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,099,722 A 7/1978 Rodesch et al.
4,200,291 A 4/1980 Hooker
(Continued)

FOREIGN PATENT DOCUMENTS

EP 0 058 488 A1 8/1982
EP 1 063 622 A2 12/2000
(Continued)

OTHER PUBLICATIONS

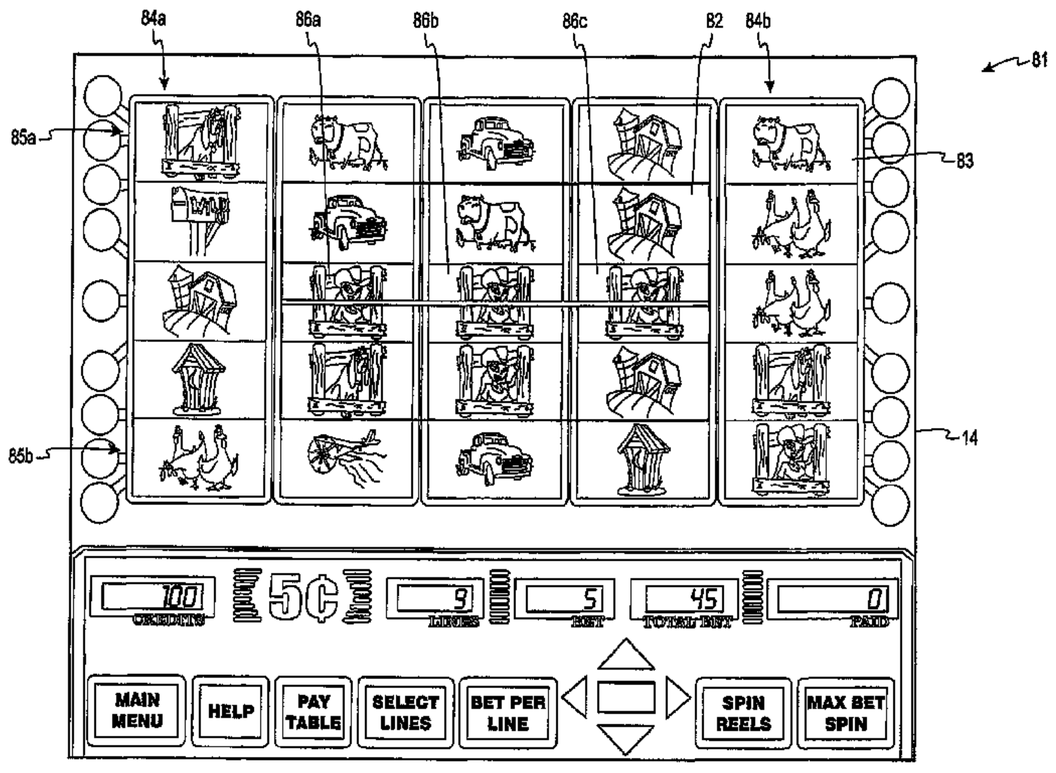
Tetris Attack Instruction Booklet, US release date Sep. 1, 1996, 13 pages.
(Continued)

Primary Examiner — Dmitry Suhol
Assistant Examiner — David Duffy
(74) *Attorney, Agent, or Firm* — Nixon Peabody LLP

(57) **ABSTRACT**

A gaming system for conducting a wagering game includes an input device for receiving a wager to play a wagering game. The gaming system further includes a primary display (**14**) for displaying a first array of symbols (**173**) that indicates a randomly selected outcome of the wagering game. The gaming system further includes a secondary display (**16**) for displaying a secondary array of symbols (**181**) that indicates a secondary outcome of the wagering game. In response to a predetermined criterion, at least one winning symbol (**175***a*, **175***c*) is moved from a first position in the first array to a second position in the secondary array to create a modified secondary array that indicates a winning outcome.

19 Claims, 26 Drawing Sheets



U.S. PATENT DOCUMENTS

4,636,951	A	1/1987	Harlick	
RE34,244	E	5/1993	Hagiwara	
5,494,294	A *	2/1996	Cappetta	273/269
5,564,700	A	10/1996	Celona	
5,704,835	A	1/1998	Dietz, II	
5,720,662	A	2/1998	Holmes, Jr. et al.	
5,769,716	A	6/1998	Saffari et al.	
5,807,172	A	9/1998	Piechowiak	
5,890,962	A *	4/1999	Takemoto	463/20
5,951,397	A	9/1999	Dickinson	
5,980,384	A	11/1999	Barrie	
6,089,977	A	7/2000	Bennett	
6,117,013	A	9/2000	Eiba	
6,224,484	B1	5/2001	Okuda et al.	
6,227,971	B1	5/2001	Weiss	
6,241,607	B1	6/2001	Payne et al.	
6,251,013	B1	6/2001	Bennett	
6,409,602	B1	6/2002	Wiltshire et al.	
6,419,579	B1	7/2002	Bennett	
6,544,120	B2 *	4/2003	Ainsworth	463/20
6,604,999	B2 *	8/2003	Ainsworth	463/20
6,855,054	B2	2/2005	White et al.	
6,896,617	B2 *	5/2005	Daly	463/20
7,108,602	B2 *	9/2006	Daly	463/20
7,351,144	B2 *	4/2008	Daly	463/20
7,361,089	B2 *	4/2008	Daly et al.	463/20
7,611,406	B2 *	11/2009	Fuller	463/20
7,654,895	B2 *	2/2010	Pacey	463/16
7,927,204	B2 *	4/2011	DeBrabander et al.	463/16
2002/0077165	A1	6/2002	Bansemer et al.	
2003/0017867	A1	1/2003	deKeller	
2003/0054874	A1	3/2003	Kaminkow	
2003/0057645	A1	3/2003	Baerlocher et al.	
2003/0060267	A1	3/2003	Glavich et al.	
2003/0157981	A1	8/2003	Marks et al.	
2004/0033829	A1	2/2004	Pacey et al.	
2004/0043809	A1	3/2004	Gomez et al.	
2004/0048650	A1	3/2004	Mierau et al.	
2004/0048651	A1	3/2004	Vorias	
2004/0092299	A1 *	5/2004	Gauselmann	463/16
2004/0097280	A1 *	5/2004	Gauselmann	463/16
2004/0242313	A1 *	12/2004	Munoz	463/20
2005/0107154	A1	5/2005	Pacey et al.	
2006/0068892	A1	3/2006	Gomez et al.	
2008/0051188	A1 *	2/2008	Inamura	463/20
2008/0070672	A1 *	3/2008	Inamura	463/20
2008/0102926	A1 *	5/2008	Okada	463/20

FOREIGN PATENT DOCUMENTS

GB	1 454 046	A	10/1976
GB	2 062 922	A	5/1981
GB	2 097 160	A	10/1982
GB	2 106 293	A	4/1983
GB	2 106 295	A	4/1983
GB	2 165 385	A	4/1986
GB	2 243 236	A	10/1991
GB	2 372 132	A	8/2002
WO	WO 98/20949		5/1998
WO	WO 00/30727		6/2000

OTHER PUBLICATIONS

"Bejeweled" description and screen shots from zone.msn.com/bejeweled, printed Aug. 7, 2008.

Zuma, (released in Dec. 2003) as described in Wikipedia webpage.

Written Opinion corresponding to co-pending International Patent Application Serial No. PCT/US2007/10616, European Patent Office, dated Sep. 16, 2008, 5 pages.

International Search Report corresponding to co-pending International Patent Application Serial No. PCT/US2007/10616, European Patent Office, dated Sep. 16, 2008, 5 pages.

Written Opinion corresponding to co-pending International Patent Application Serial No. PCT/US2007/10615, European Patent Office, dated Jul. 2, 2008, 4 pages.

International Search Report corresponding to co-pending International Patent Application Serial No. PCT/US2007/10615, European Patent Office, dated Jul. 2, 2008, 5 pages.

* cited by examiner

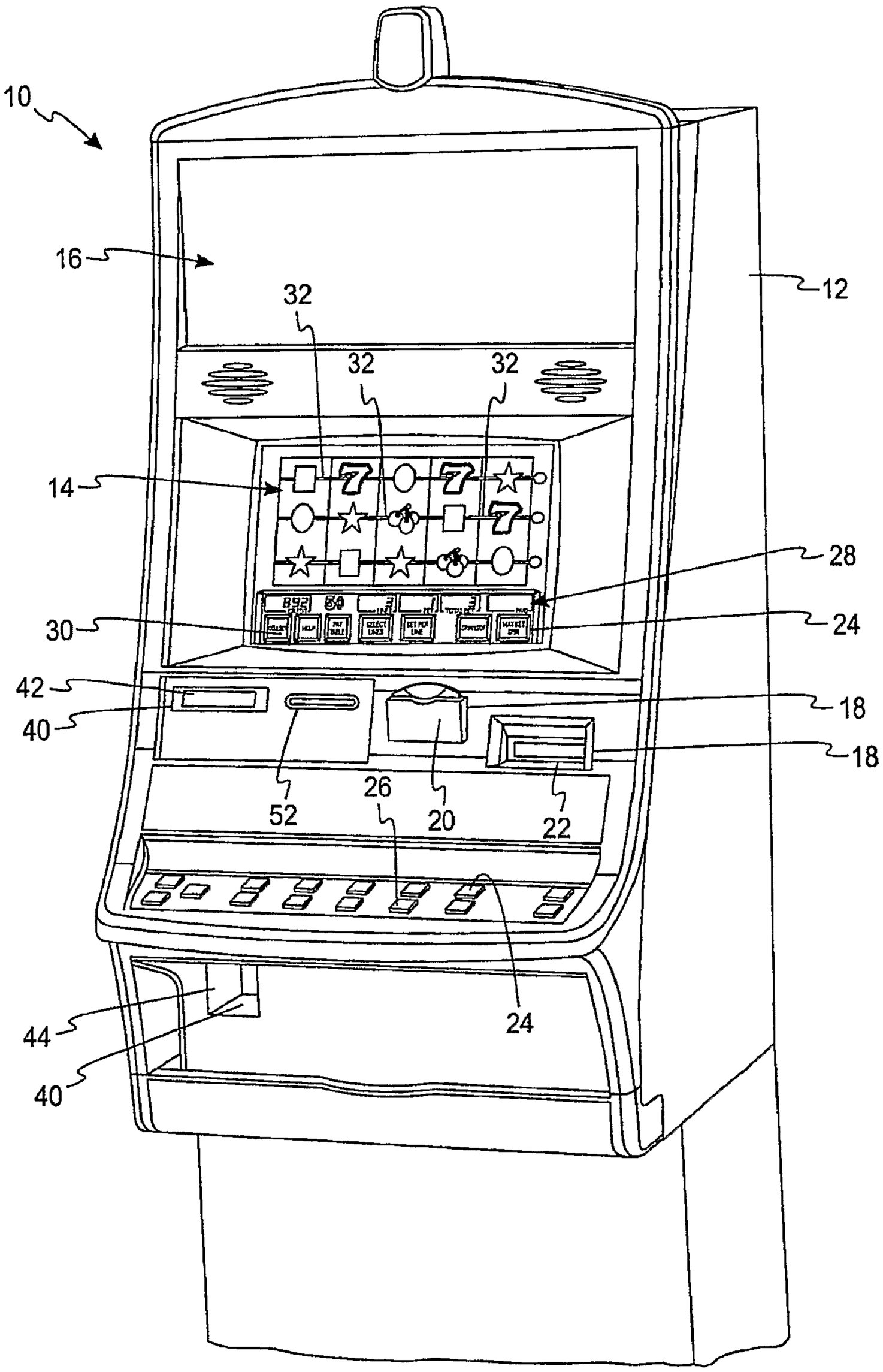


Fig. 1

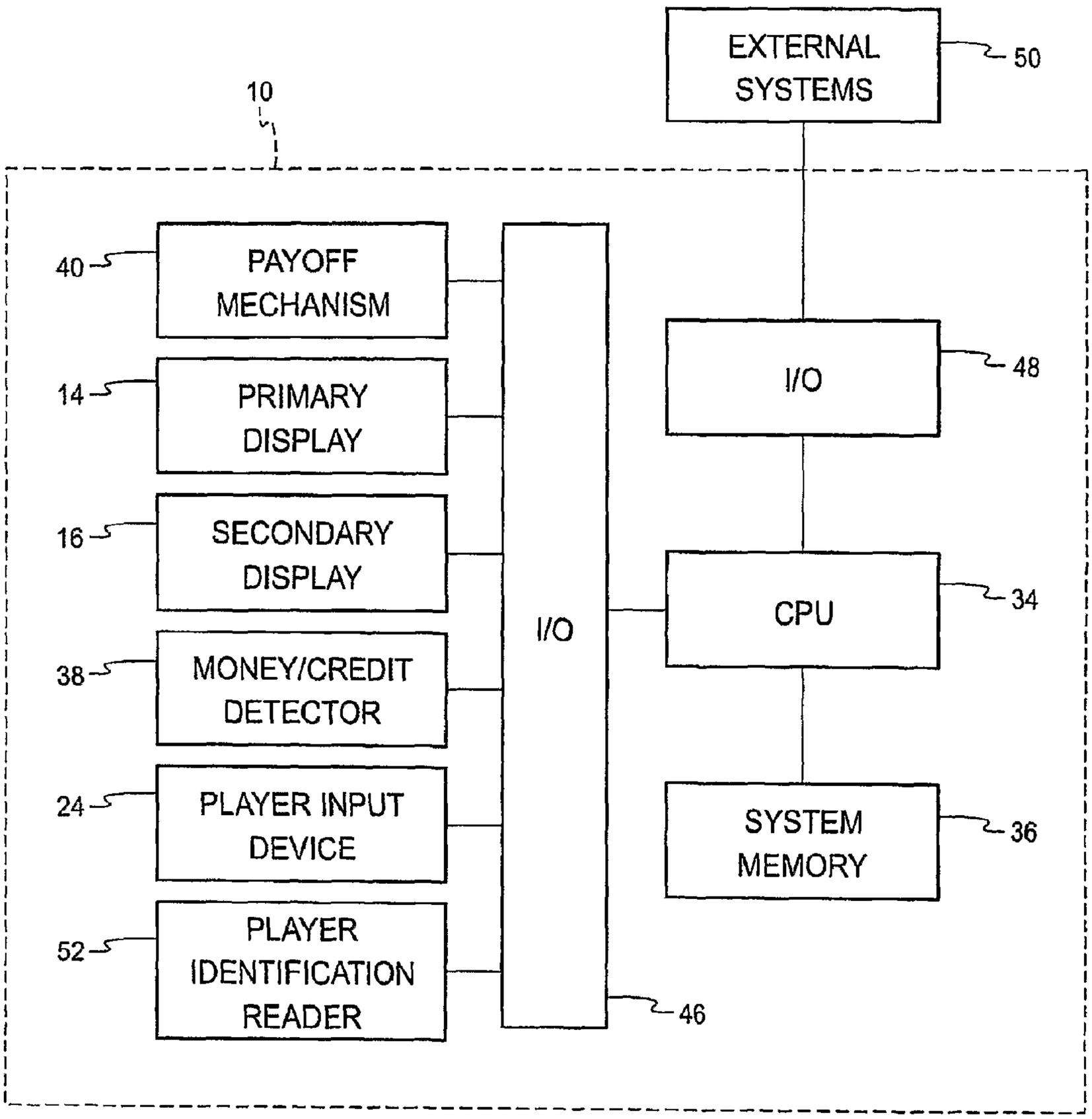

EXTERNAL SYSTEMS
50
10
40
PAYOFF MECHANISM
14
PRIMARY DISPLAY
16
SECONDARY DISPLAY
38
MONEY/CREDIT DETECTOR
24
PLAYER INPUT DEVICE
52
PLAYER IDENTIFICATION READER
I/O
46
I/O
48
CPU
34
SYSTEM MEMORY
36

Fig. 2

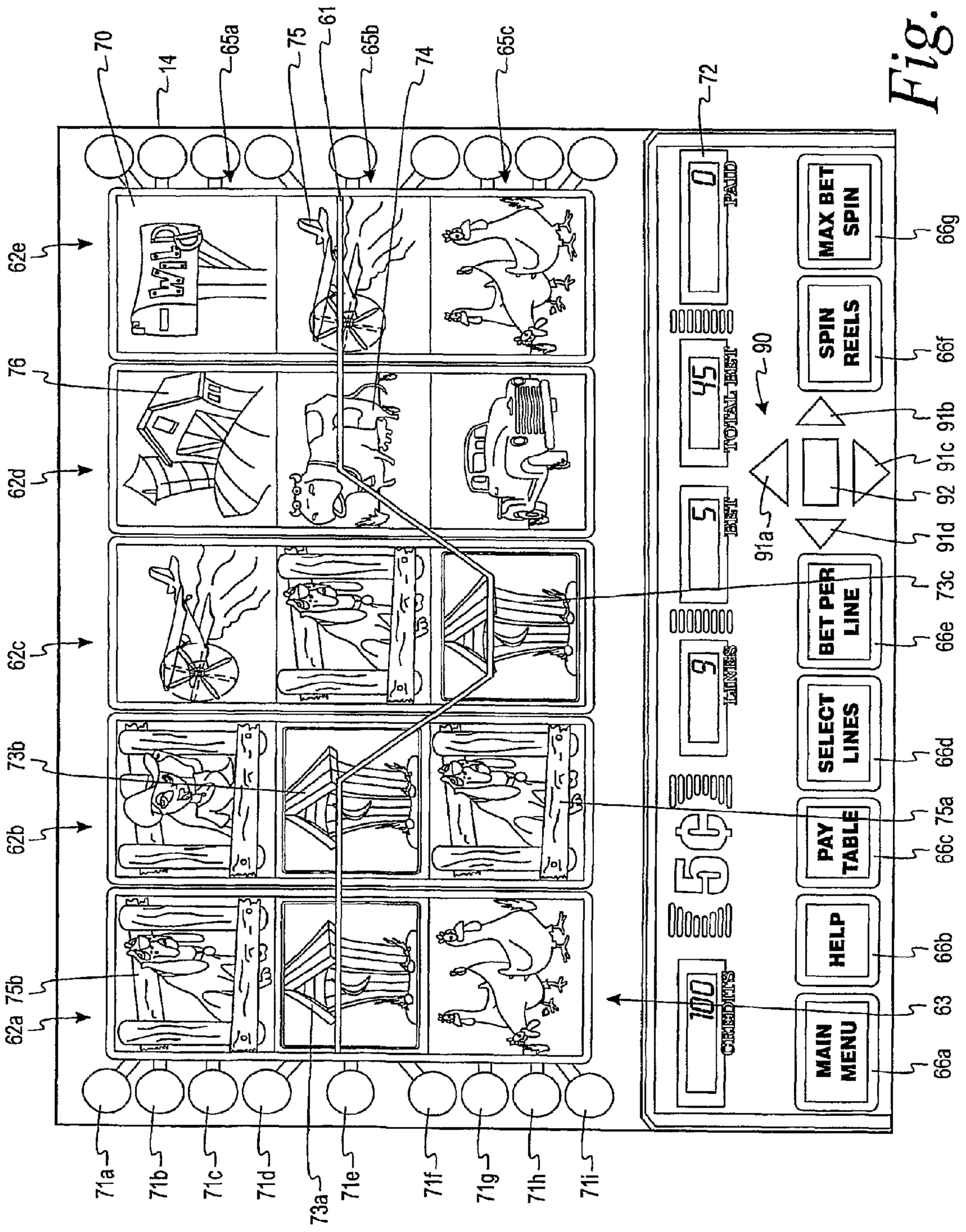

70
14
65a
75
61
65b
74
65c
72
62e
76
62d
62c
73b
62b
62a
75b
71a
71b
71c
71d
73a
71e
71f
71g
71h
71i
WILD
PAID
0
TOTAL BET
45
BET
5
LINES
9
CREDITS
100
90
91a
91b
91c
92
91d
73c
66e
66d
75a
66c
63
66b
66a
66g
66f
BET PER LINE
SELECT LINES
PAY TABLE
SPIN REELS
MAX BET SPIN
HELP
MAIN MENU

Fig. 3

Fig. 4

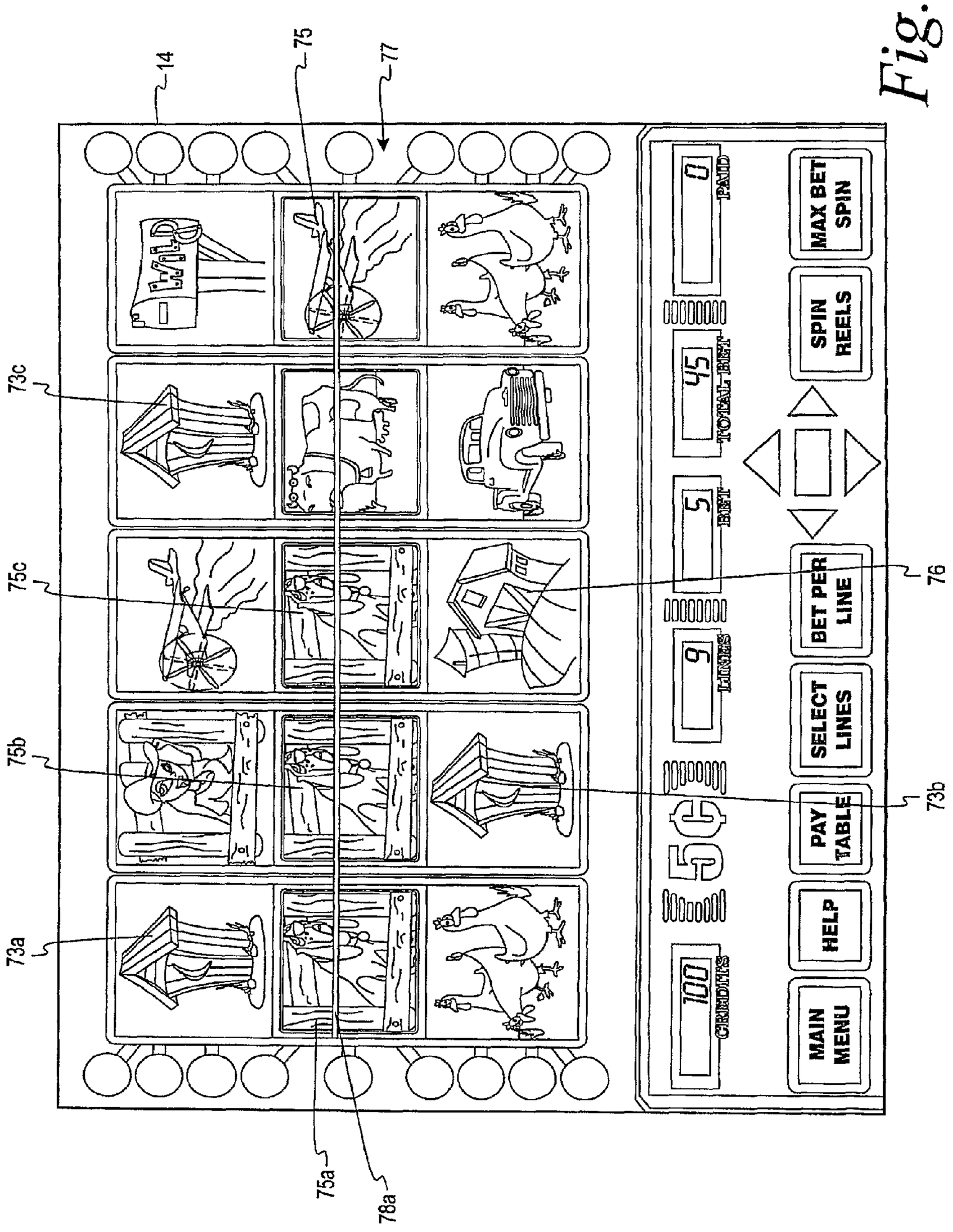

14
75
77
73c
75c
75b
73a
75a
78a
76
73b
WILD
PAID
0
TOTAL BET
45
BET
5
LINES
9
CREDITS
100
SPIN REELS
MAX BET SPIN
BET PER LINE
SELECT LINES
PAY TABLE
HELP
MAIN MENU

Fig. 5a

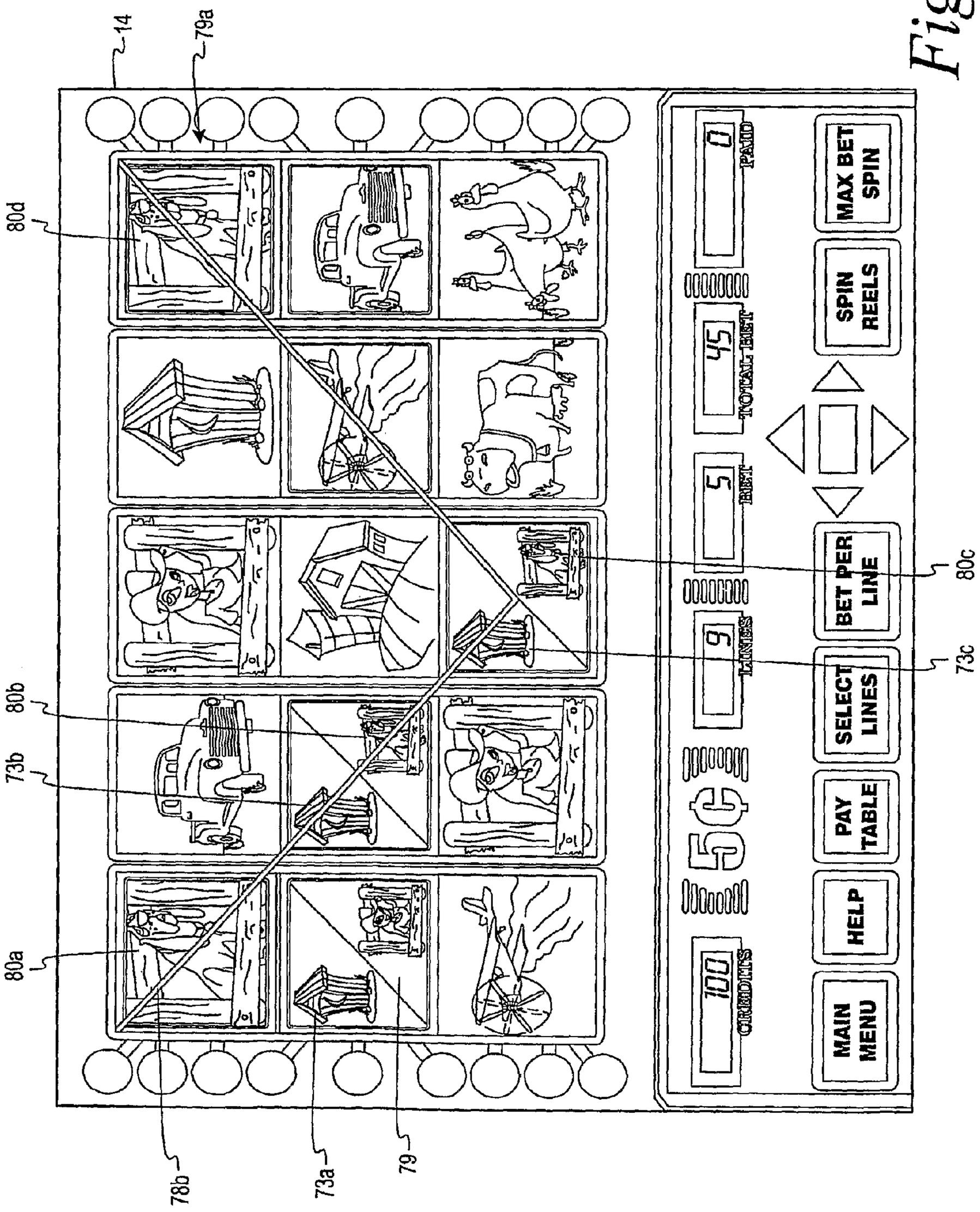
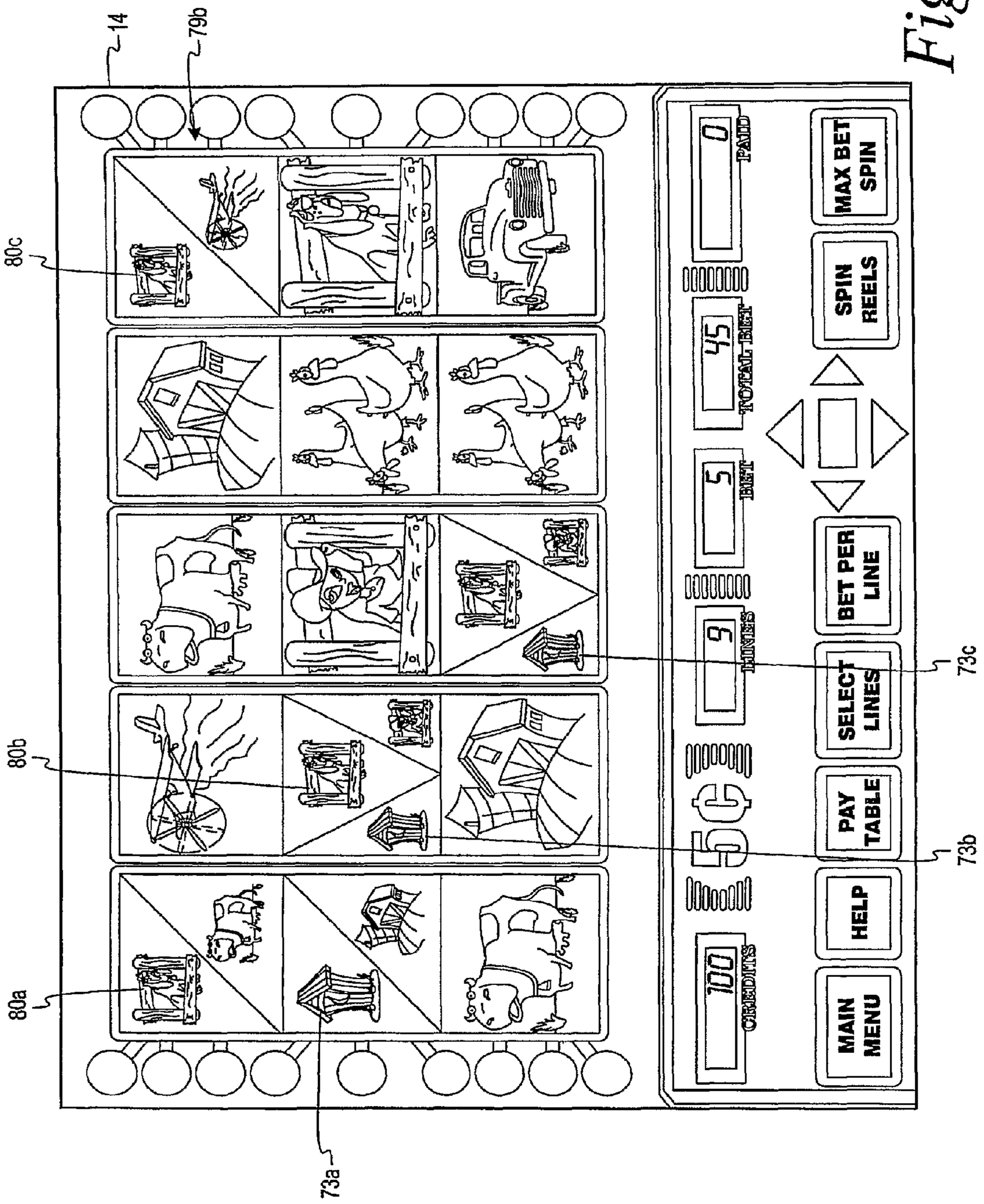

14
79a
80d
80b
73b
80a
78b
73a
79
80c
73c
PAID
0
TOTAL BET
45
BET
5
LINES
9
CREDITS
100
SPIN REELS
MAX BET SPIN
BET PER LINE
SELECT LINES
PAY TABLE
HELP
MAIN MENU

Fig. 5b


14
79b
80c
80b
80a
73a
73b
73c
PAID
0
TOTAL BET
45
BET
5
LINES
9
CREDITS
100
SPIN REELS
MAX BET SPIN
BET PER LINE
SELECT LINES
PAY TABLE
HELP
MAIN MENU

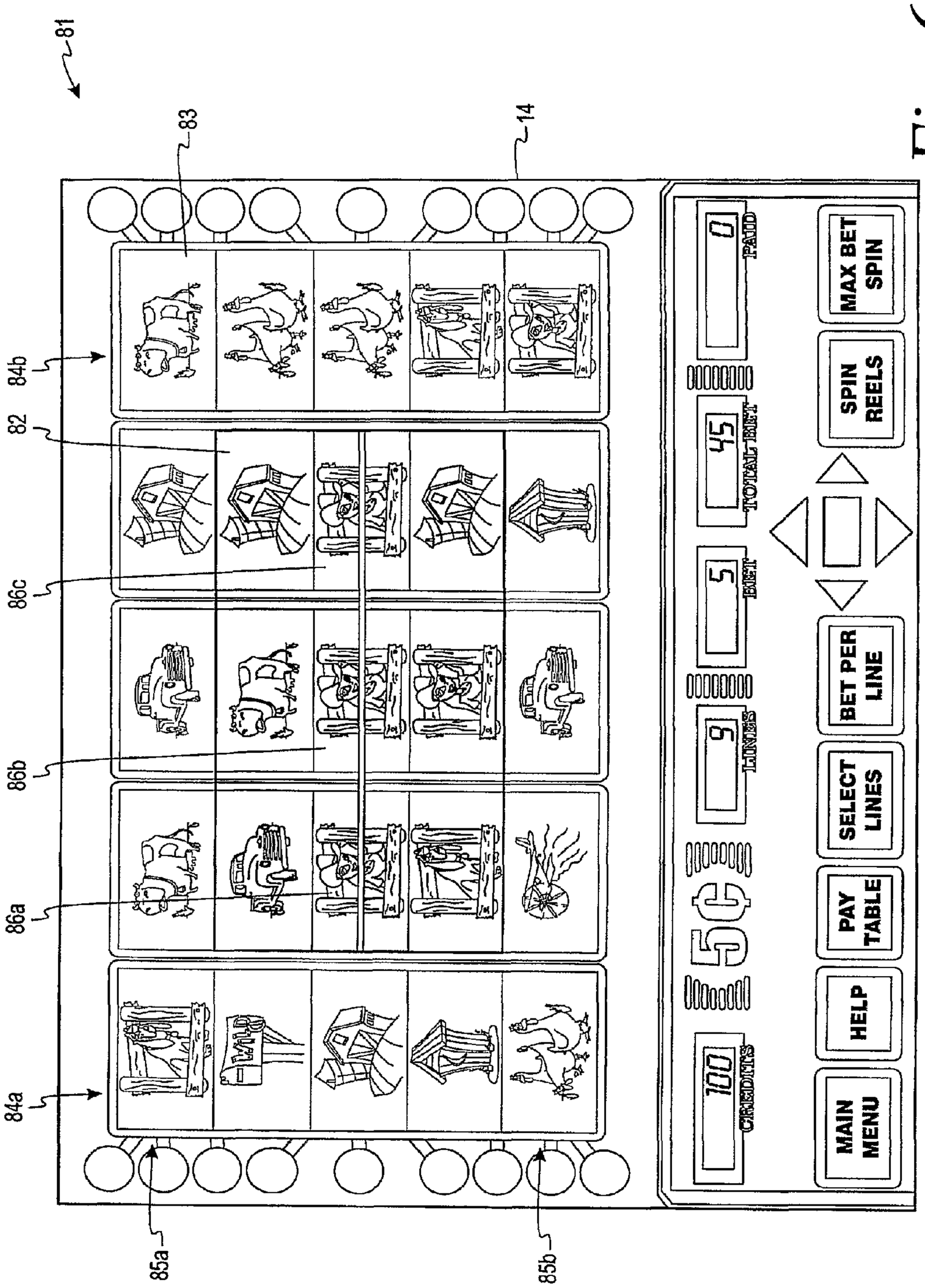

81
83
14
84b
82
86c
86b
86a
84a
85a
85b
PAID
0
TOTAL BET
45
BET
5
LINES
9
CREDITS
100
MAX BET SPIN
SPIN REELS
BET PER LINE
SELECT LINES
PAY TABLE
HELP
MAIN MENU

Fig. 6a

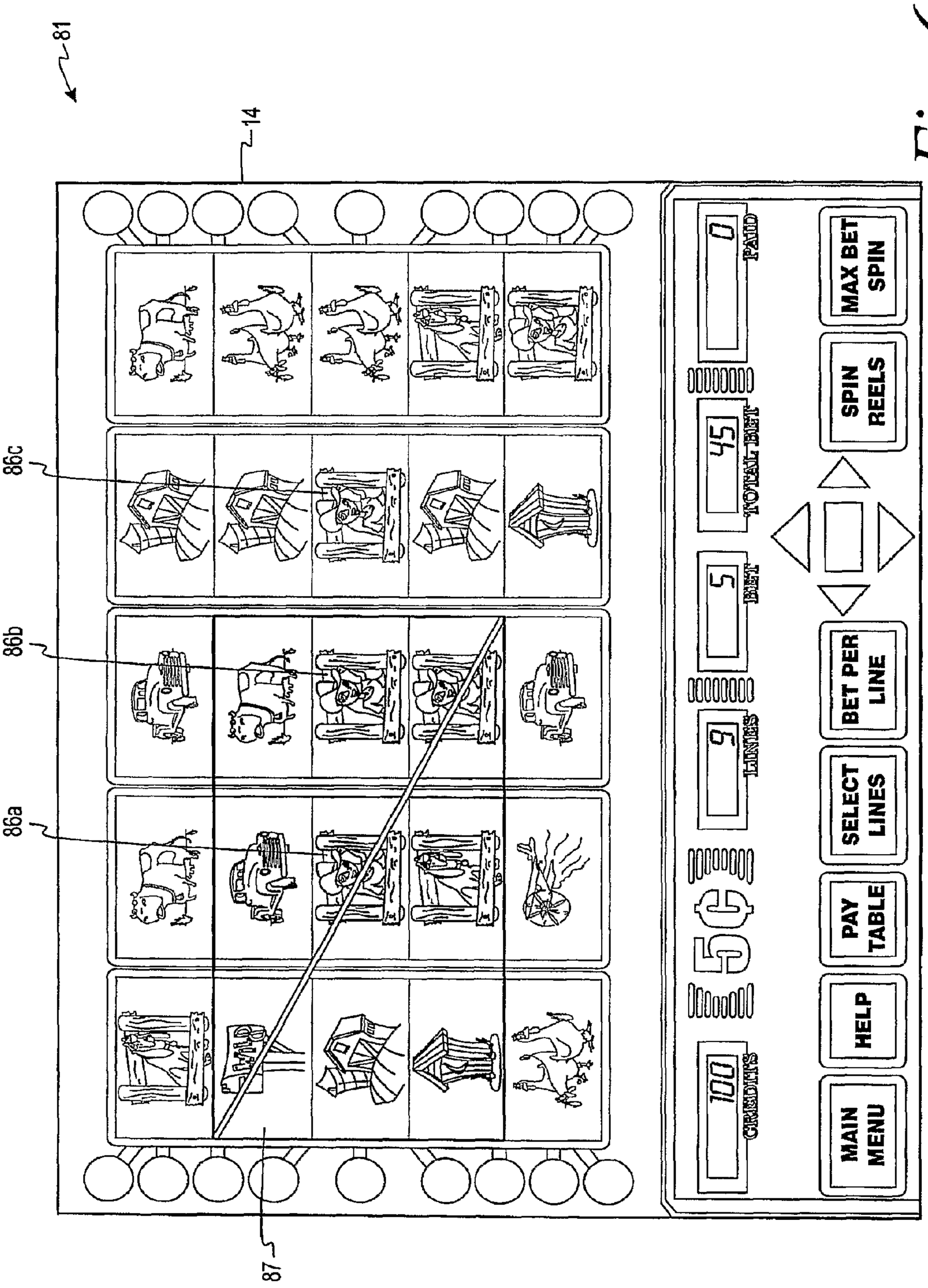

81
14
86c
86b
86a
87
WILD
PAID
TOTAL BET
BET
LINES
MAX BET
SPIN
SPIN REELS
BET PER LINE
SELECT LINES
PAY TABLE
HELP
MAIN MENU
CREDITS
100
45
5
9

Fig. 6b

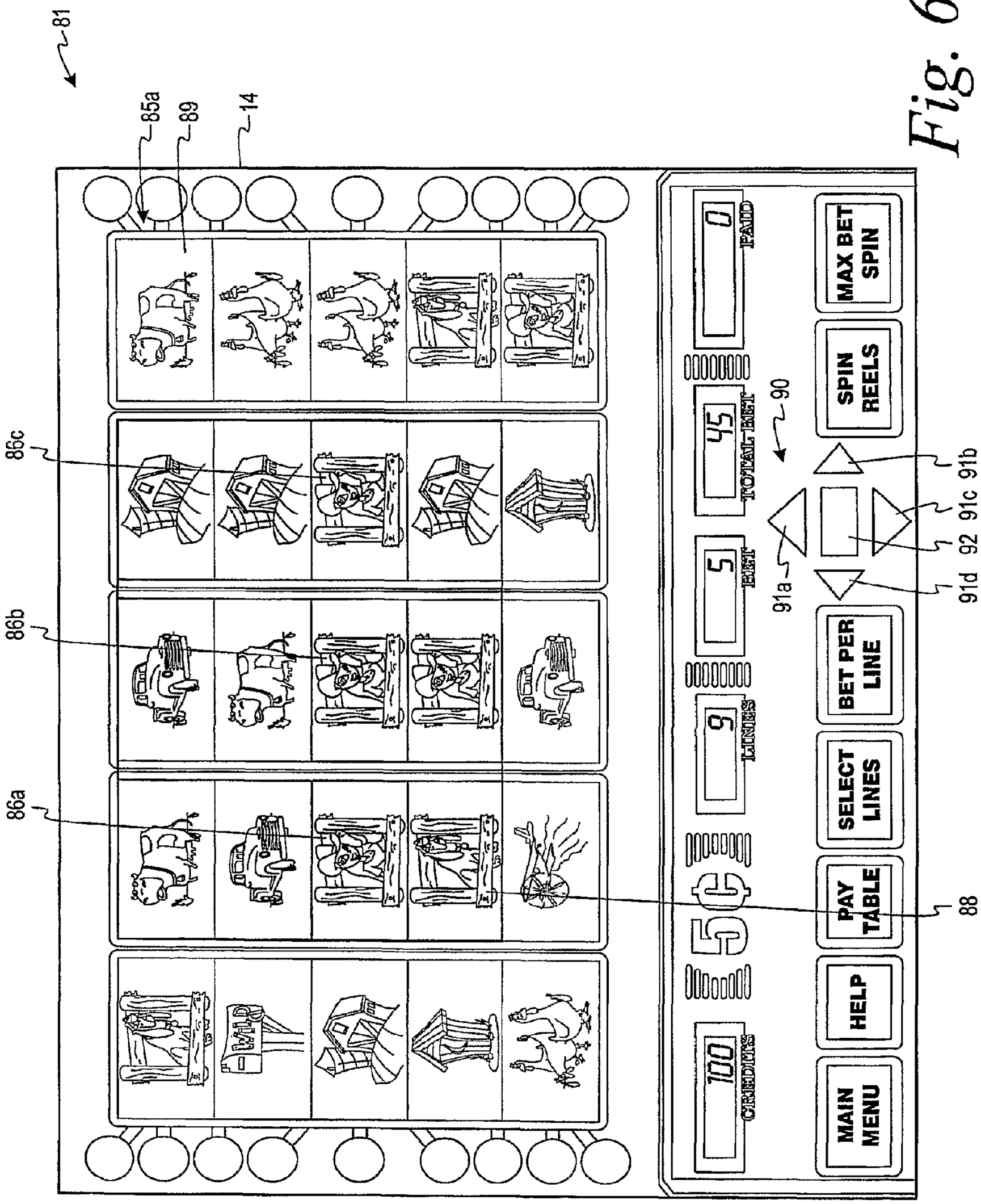

81
85a
89
14
86c
86b
86a
PAID
0
TOTAL BET
45
BET
5
LINES
9
CREDITS
100
90
91a
91b
91c
91d
92
88
MAX BET SPIN
SPIN REELS
BET PER LINE
SELECT LINES
PAY TABLE
HELP
MAIN MENU

Fig. 6c

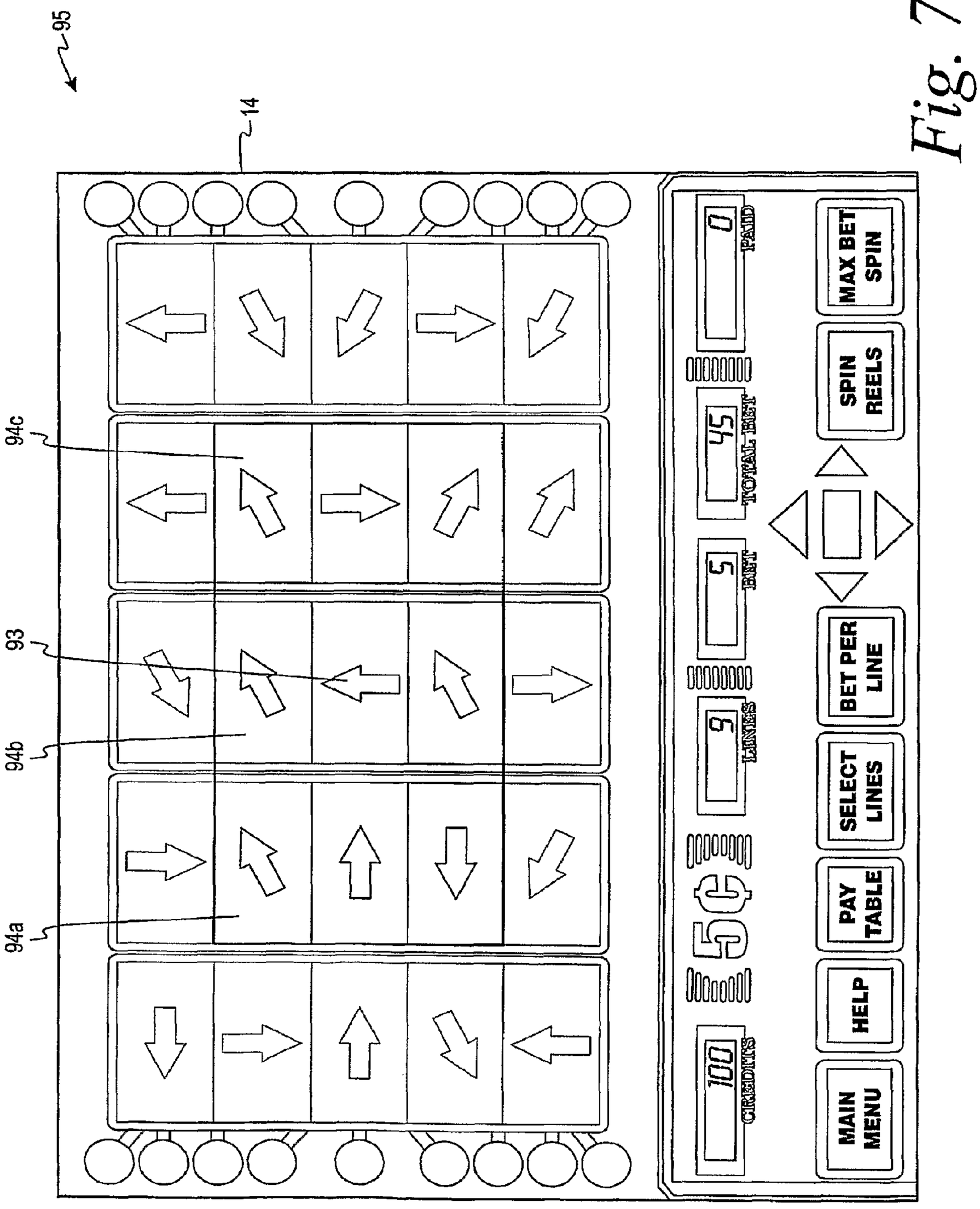

95
14
94c
93
94b
94a
PAID
0
TOTAL BET
45
BET
5
LINES
9
CREDITS
100
MAX BET SPIN
SPIN REELS
BET PER LINE
SELECT LINES
PAY TABLE
HELP
MAIN MENU

Fig. 7a

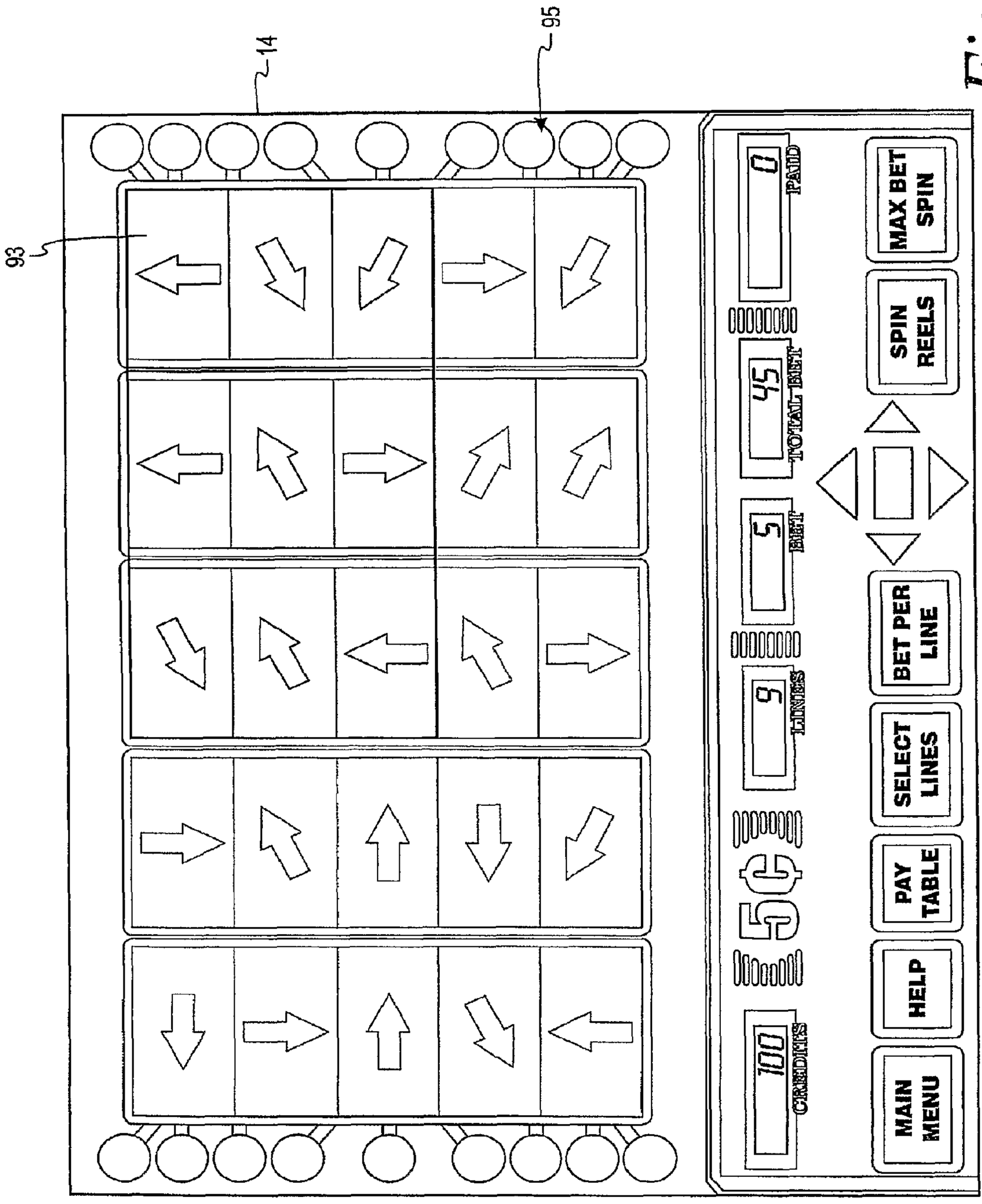
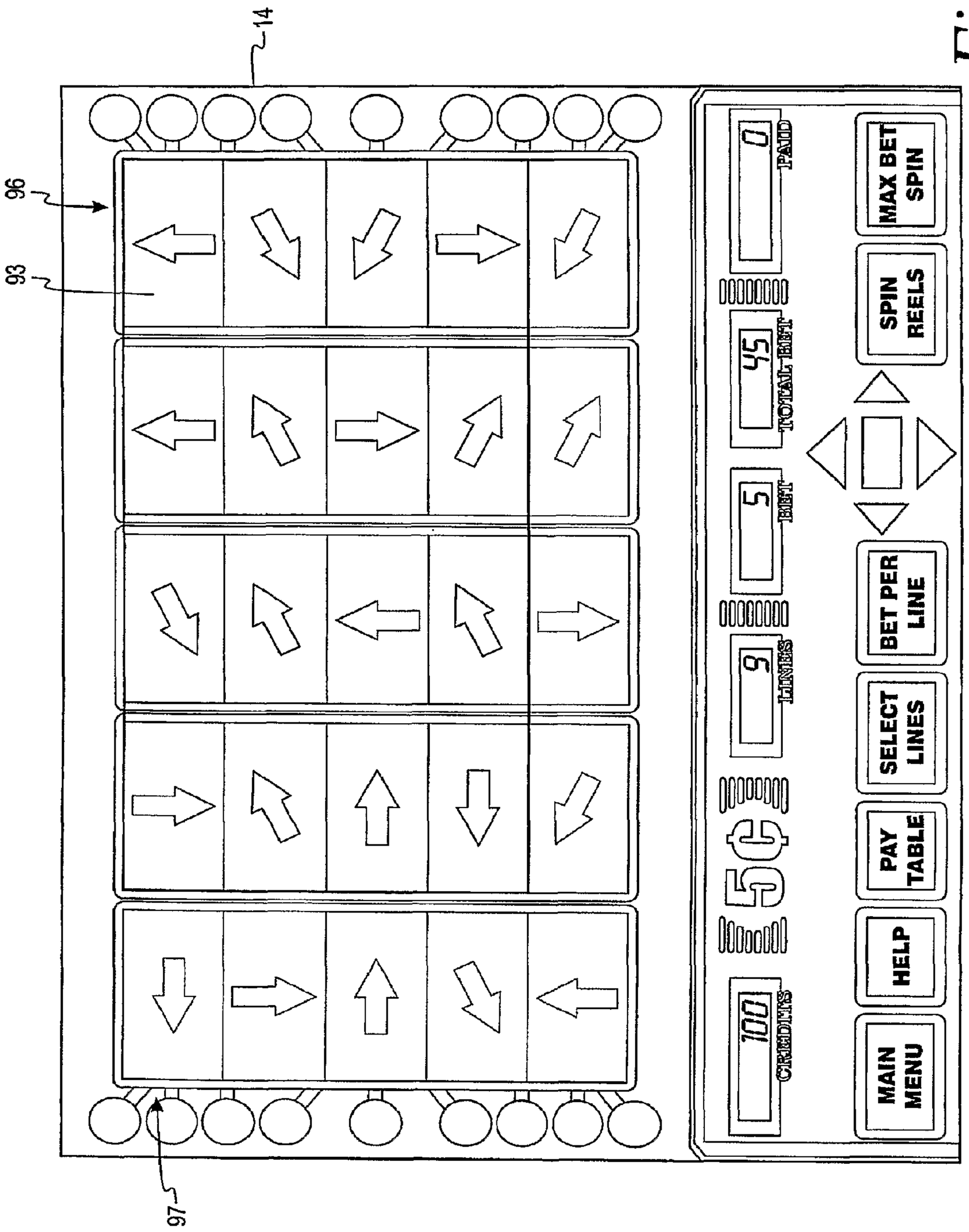

14
95
93
0
PAID
45
TOTAL BET
5
BET
9
LINES
56
100
CREDITS
MAX BET SPIN
SPIN REELS
BET PER LINE
SELECT LINES
PAY TABLE
HELP
MAIN MENU

Fig. 7b

Fig. 7c


14
96
93
97
0
PADD
45
TOTAL BET
5
BET
9
LINES
5
CREDITS
MAX BET SPIN
SPIN REELS
BET PER LINE
SELECT LINES
PAY TABLE
HELP
MAIN MENU

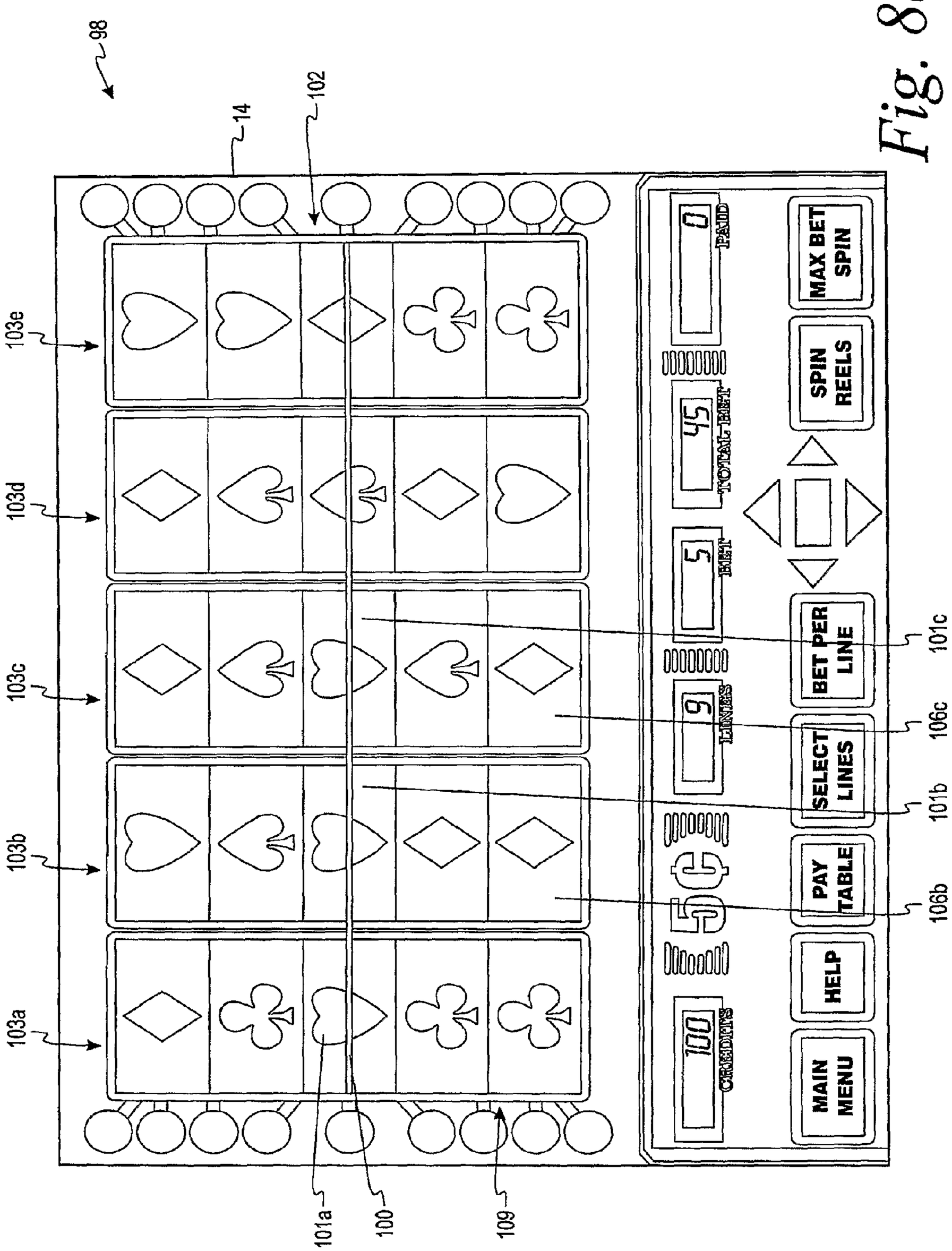

98
14
102
103e
103d
103c
103b
103a
101a
100
109
101c
106c
101b
106b
PAID
0
TOTAL BET
45
BET
5
LINES
9
CREDITS
100
MAX BET
SPIN
SPIN REELS
BET PER LINE
SELECT LINES
PAY TABLE
HELP
MAIN MENU

Fig. 8a

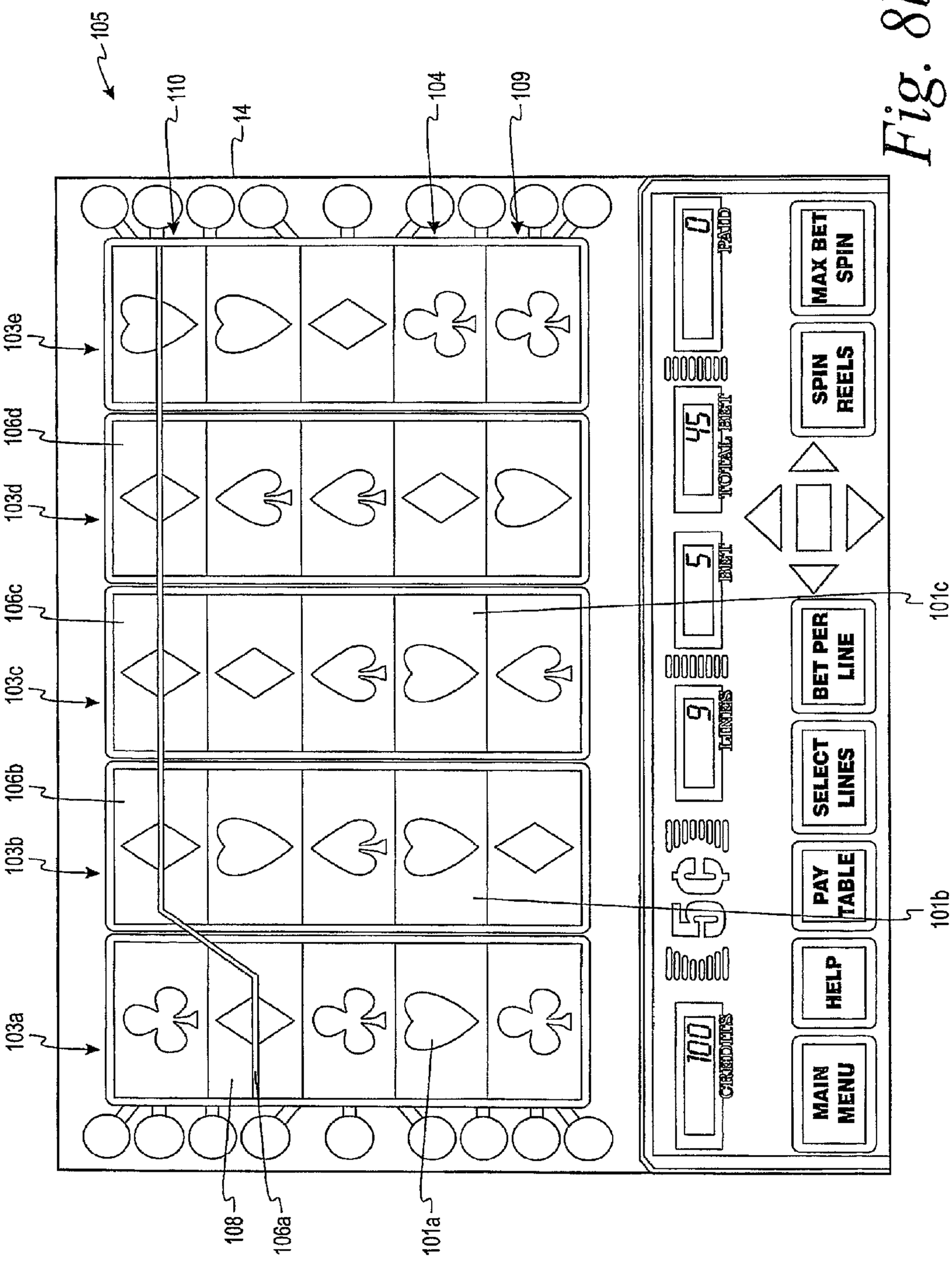

105
110
14
104
109
103e
106d
103d
106c
103c
106b
103b
103a
108
106a
101a
101c
101b
0
PAID
45
TOTAL BET
5
BET
9
LINES
100
CREDITS
SPIN REELS
MAX BET SPIN
BET PER LINE
SELECT LINES
PAY TABLE
HELP
MAIN MENU

Fig. 8b

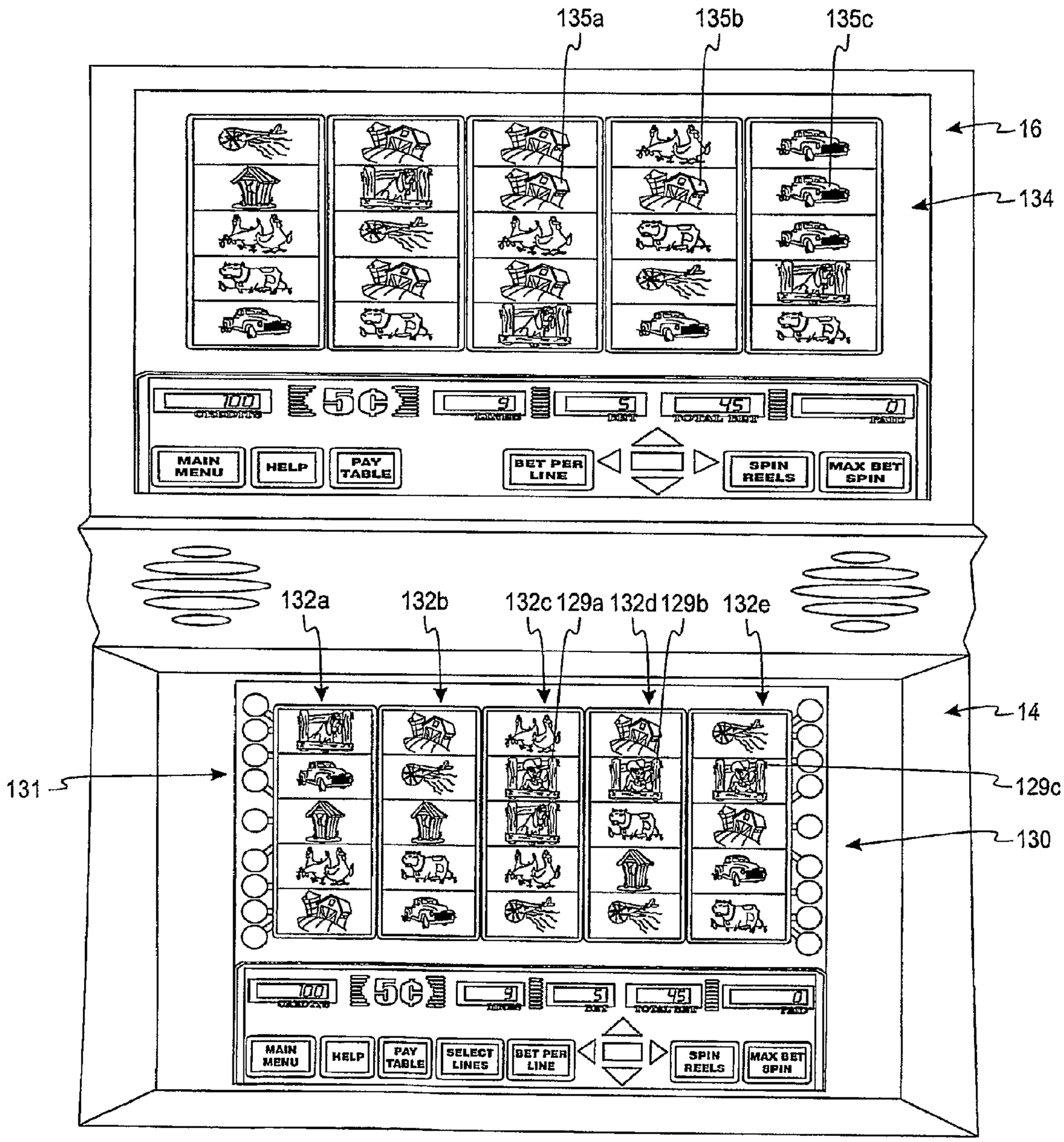

135a
135b
135c
16
134
MAIN MENU
HELP
PAY TABLE
BET PER LINE
SPIN REELS
MAX BET SPIN
132a
132b
132c
129a
132d
129b
132e
14
131
129c
130
SELECT LINES

Fig. 9a

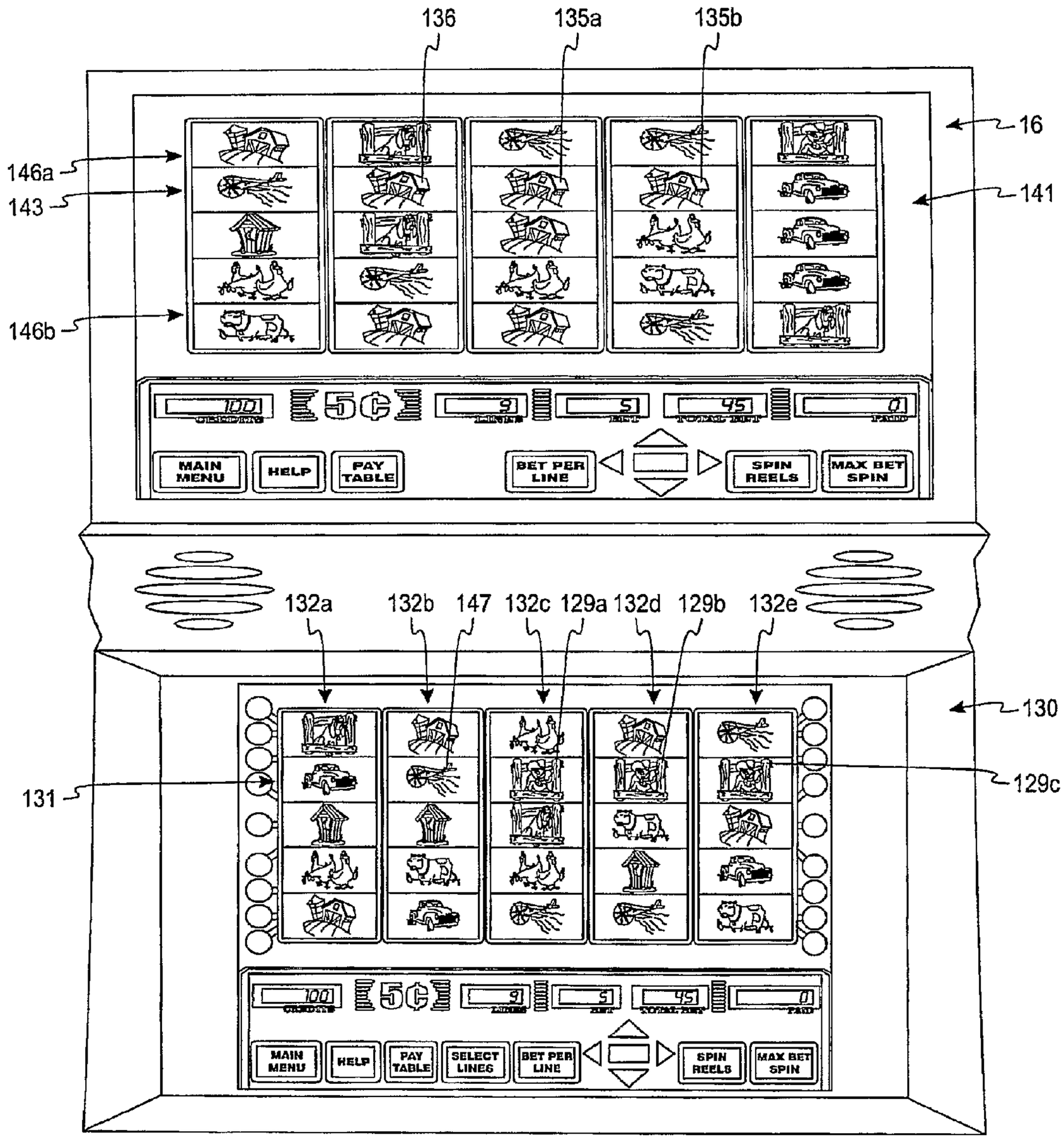

136
135a
135b
16
146a
143
141
146b
100
5¢
9
5
45
0
MAIN MENU
HELP
PAY TABLE
BET PER LINE
SPIN REELS
MAX BET SPIN
132a
132b
147
132c
129a
132d
129b
132e
130
131
129c
100
5¢
9
5
45
0
MAIN MENU
HELP
PAY TABLE
SELECT LINES
BET PER LINE
SPIN REELS
MAX BET SPIN

Fig. 9b

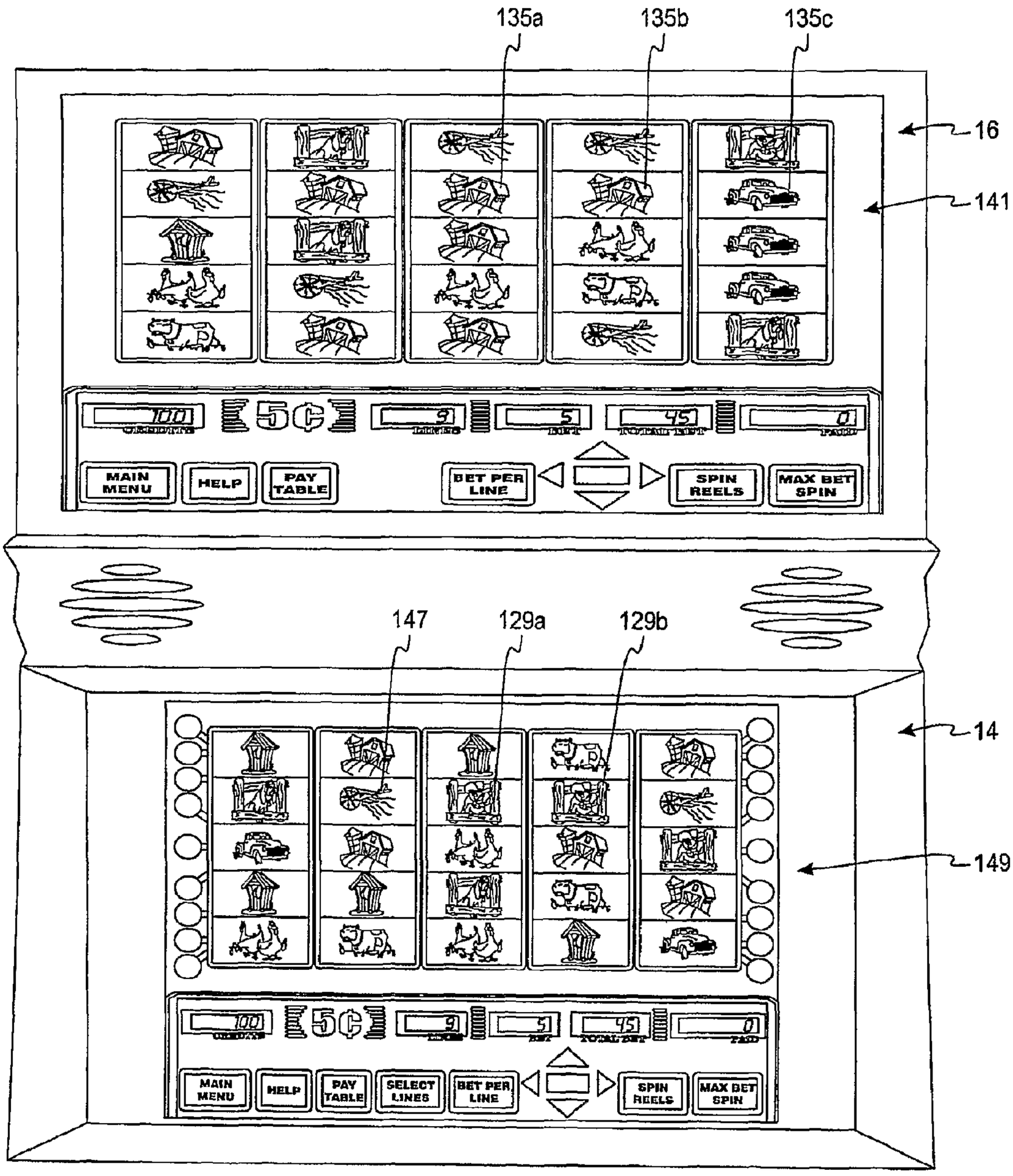

135a
135b
135c
16
141
100
5¢
9
5
45
0
MAIN MENU
HELP
PAY TABLE
BET PER LINE
SPIN REELS
MAX BET SPIN
147
129a
129b
14
149
100
5¢
9
5
45
0
MAIN MENU
HELP
PAY TABLE
SELECT LINES
BET PER LINE
SPIN REELS
MAX BET SPIN

Fig. 9c

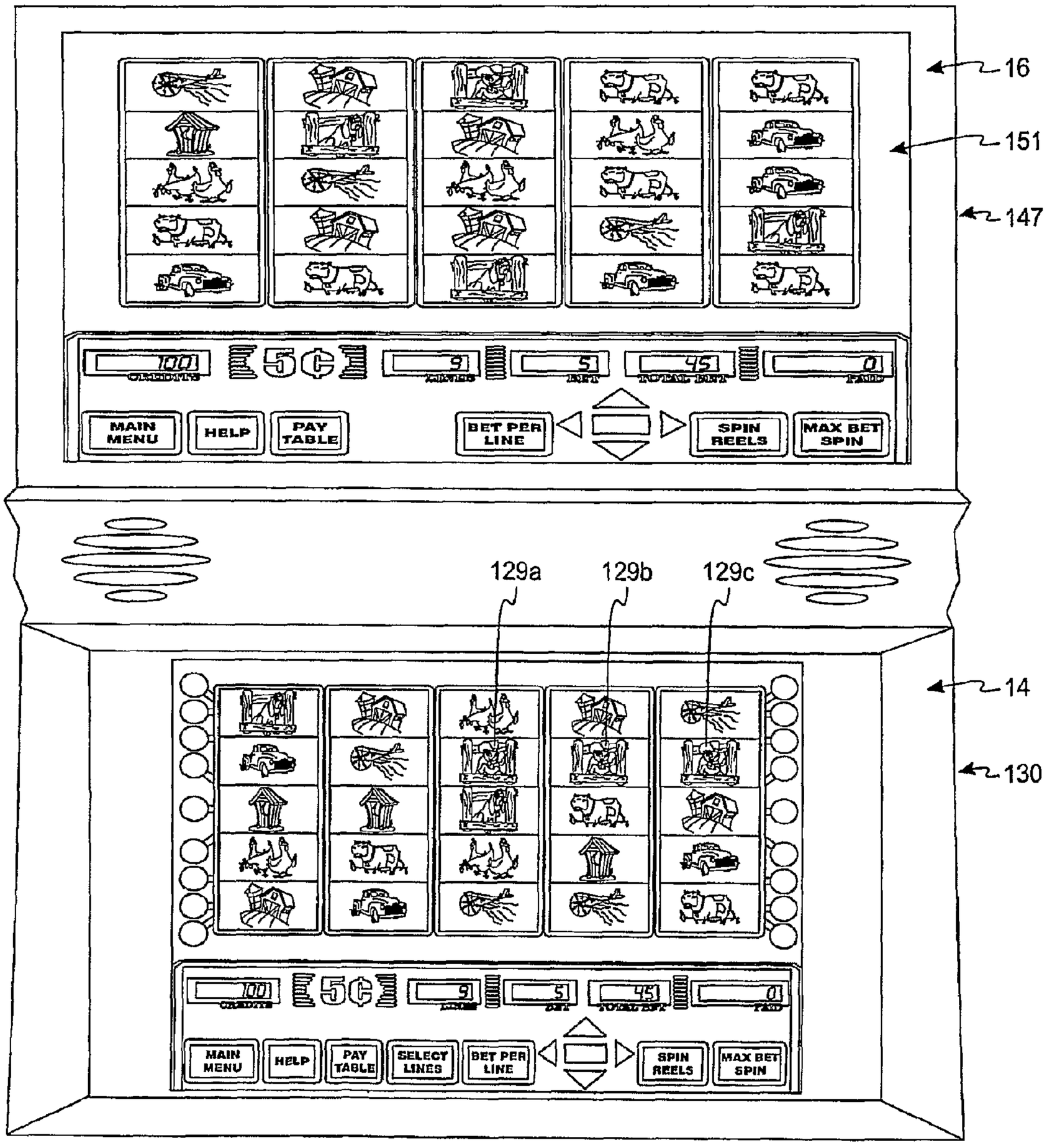

16
151
147
100
5¢
9
5
45
0
MAIN MENU
HELP
PAY TABLE
BET PER LINE
SPIN REELS
MAX BET SPIN
129a
129b
129c
14
130
100
5¢
9
5
45
0
MAIN MENU
HELP
PAY TABLE
SELECT LINES
BET PER LINE
SPIN REELS
MAX BET SPIN

Fig. 9d

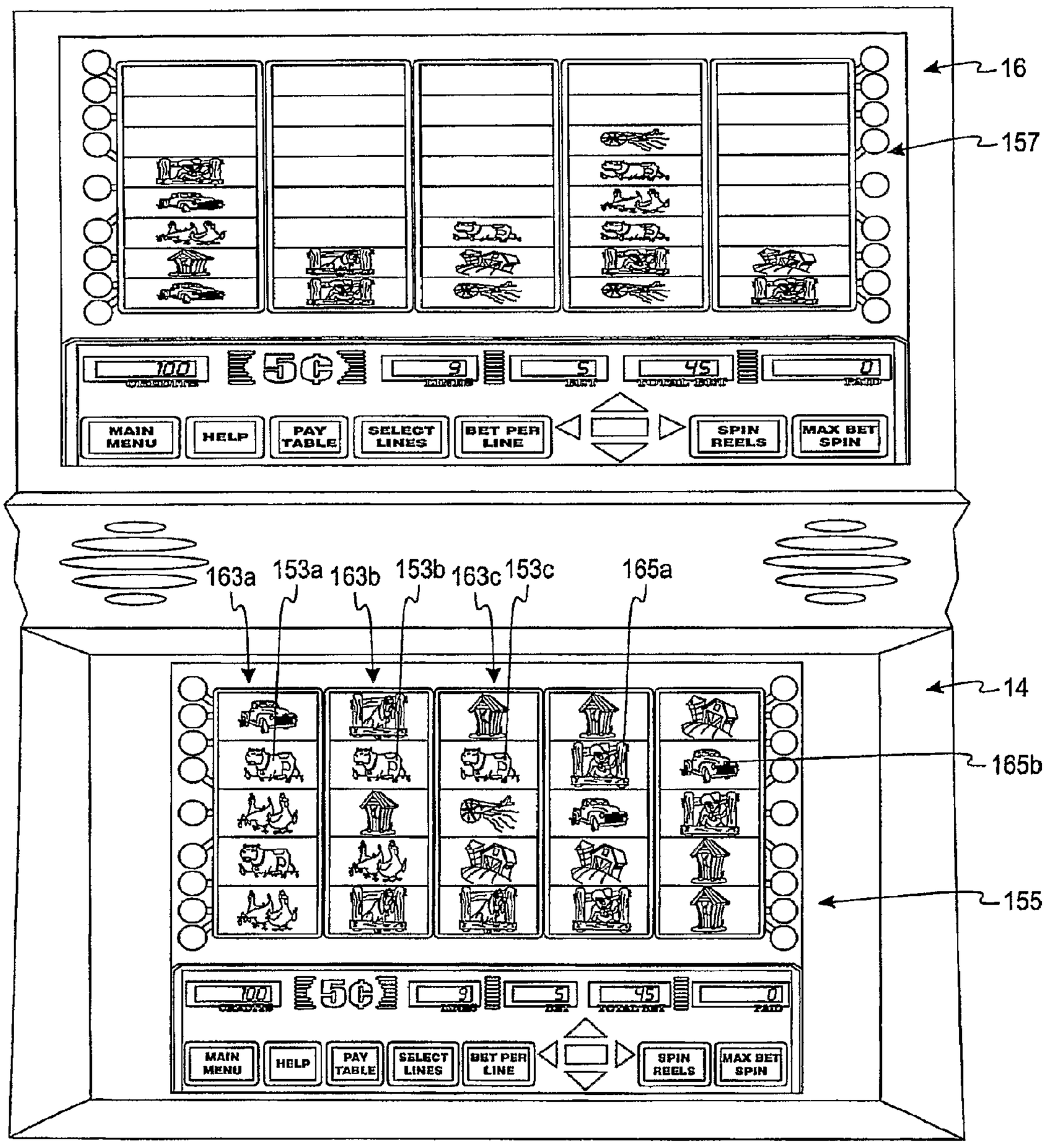

16
157
100
5¢
9
5
45
0
MAIN MENU
HELP
PAY TABLE
SELECT LINES
BET PER LINE
SPIN REELS
MAX BET SPIN
163a
153a
163b
153b
163c
153c
165a
14
165b
155
100
5¢
9
5
45
0
MAIN MENU
HELP
PAY TABLE
SELECT LINES
BET PER LINE
SPIN REELS
MAX BET SPIN

Fig. 10a

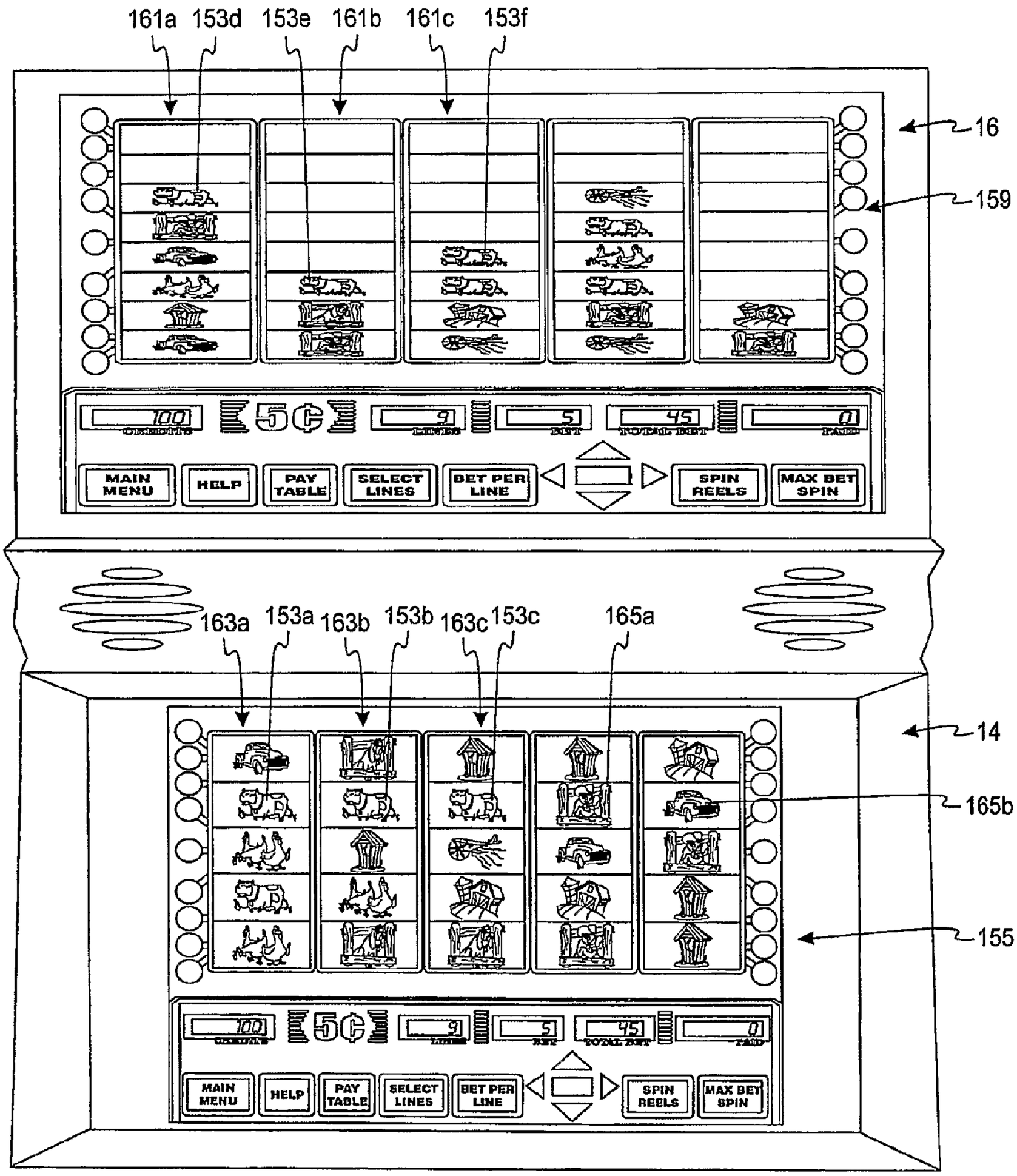

161a
153d
153e
161b
161c
153f
16
159
100
5¢
9
5
45
0
MAIN MENU
HELP
PAY TABLE
SELECT LINES
BET PER LINE
SPIN REELS
MAX BET SPIN
163a
153a
163b
153b
163c
153c
165a
14
165b
155

Fig. 10b

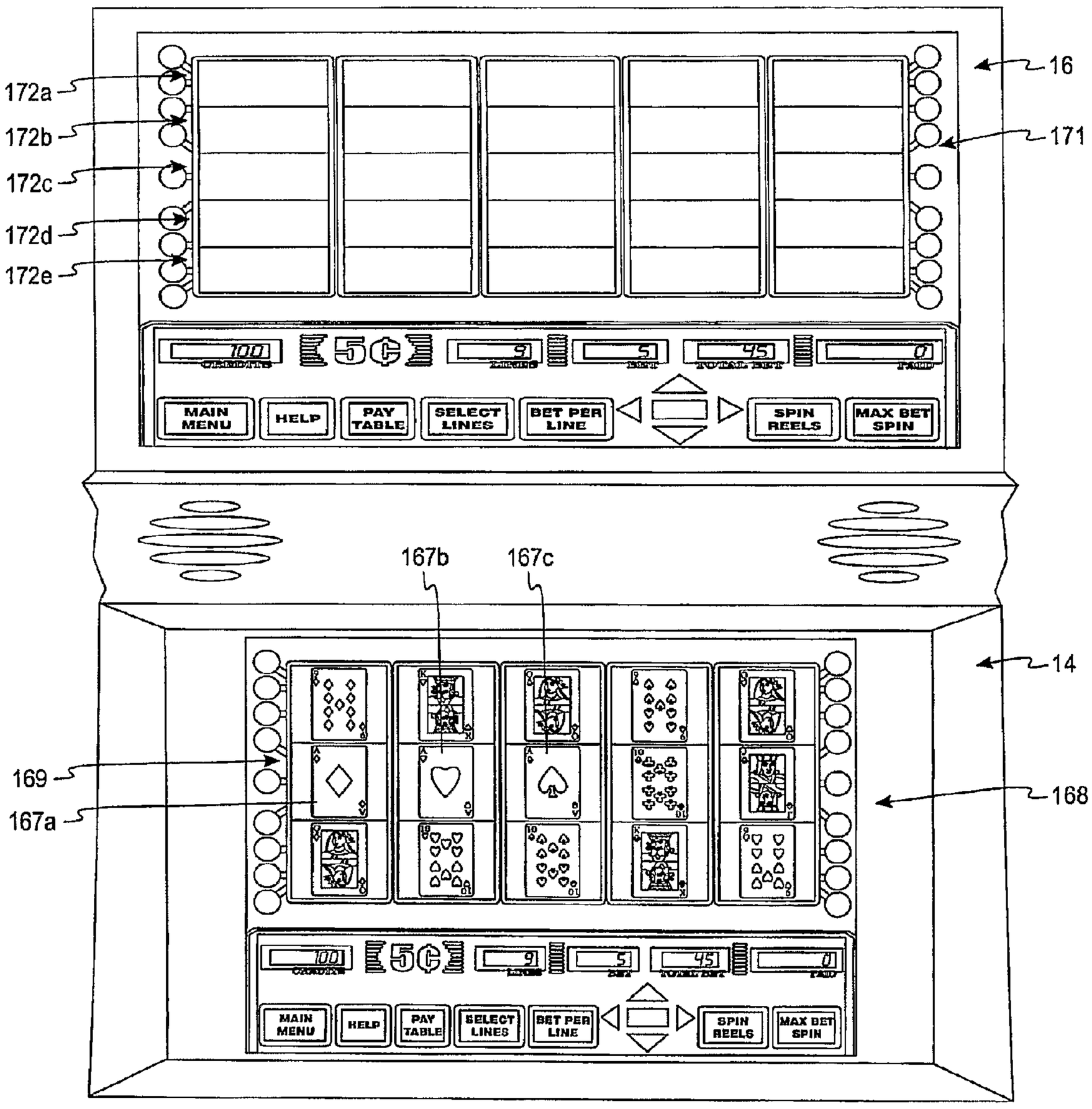

172a
172b
172c
172d
172e
16
171
100
5¢
9
5
45
0
MAIN MENU
HELP
PAY TABLE
SELECT LINES
BET PER LINE
SPIN REELS
MAX BET SPIN
167b
167c
14
169
167a
168

Fig. 11a

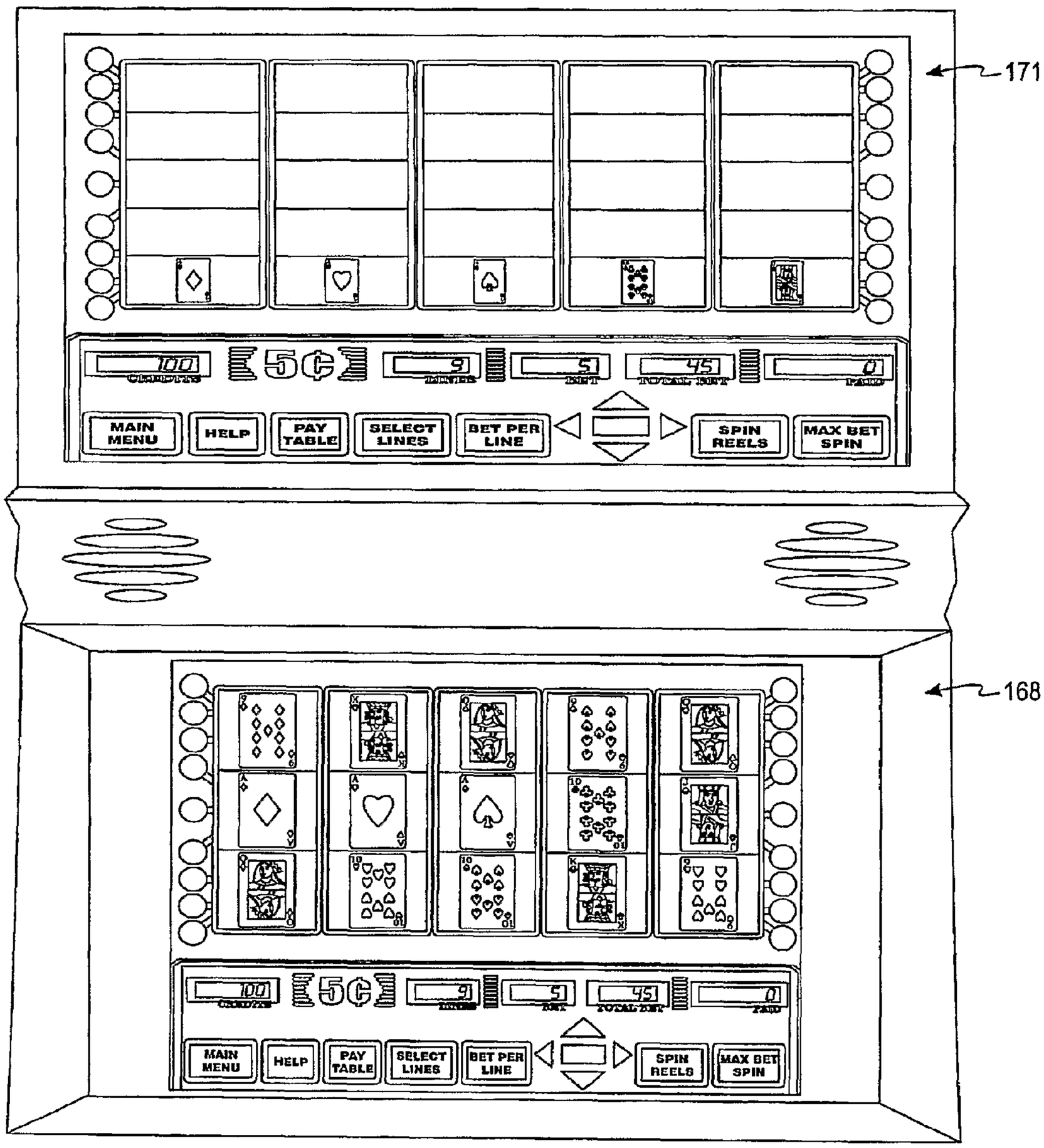

171
100
5¢
9
5
45
0
MAIN MENU
HELP
PAY TABLE
SELECT LINES
BET PER LINE
SPIN REELS
MAX BET SPIN
168
100
5¢
9
5
45
0
MAIN MENU
HELP
PAY TABLE
SELECT LINES
BET PER LINE
SPIN REELS
MAX BET SPIN

Fig. 11b

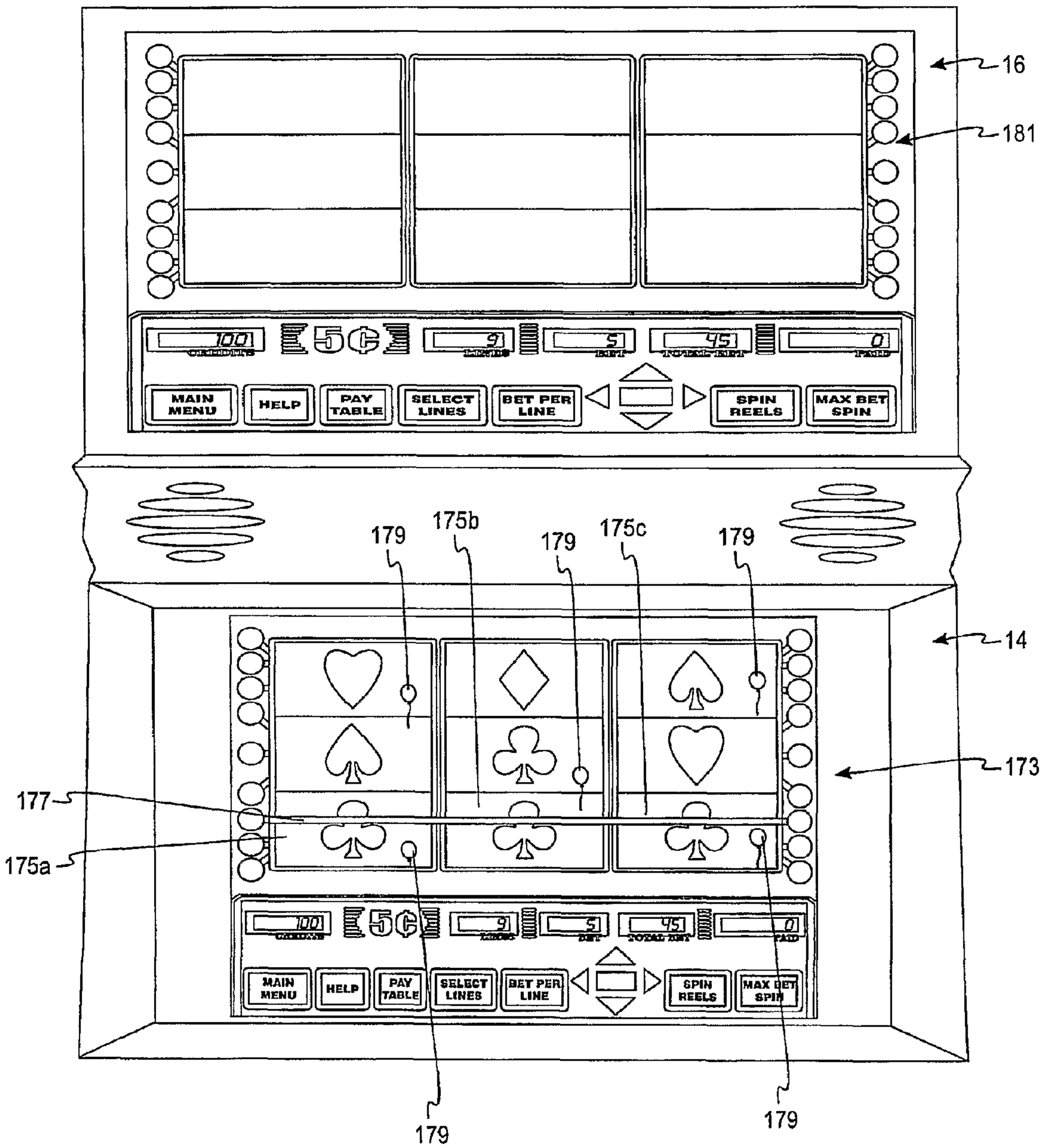

16
181
100
5¢
9
5
45
0
MAIN MENU
HELP
PAY TABLE
SELECT LINES
BET PER LINE
SPIN REELS
MAX BET SPIN
179
175b
179
175c
179
14
173
177
175a
179
179

Fig. 12a

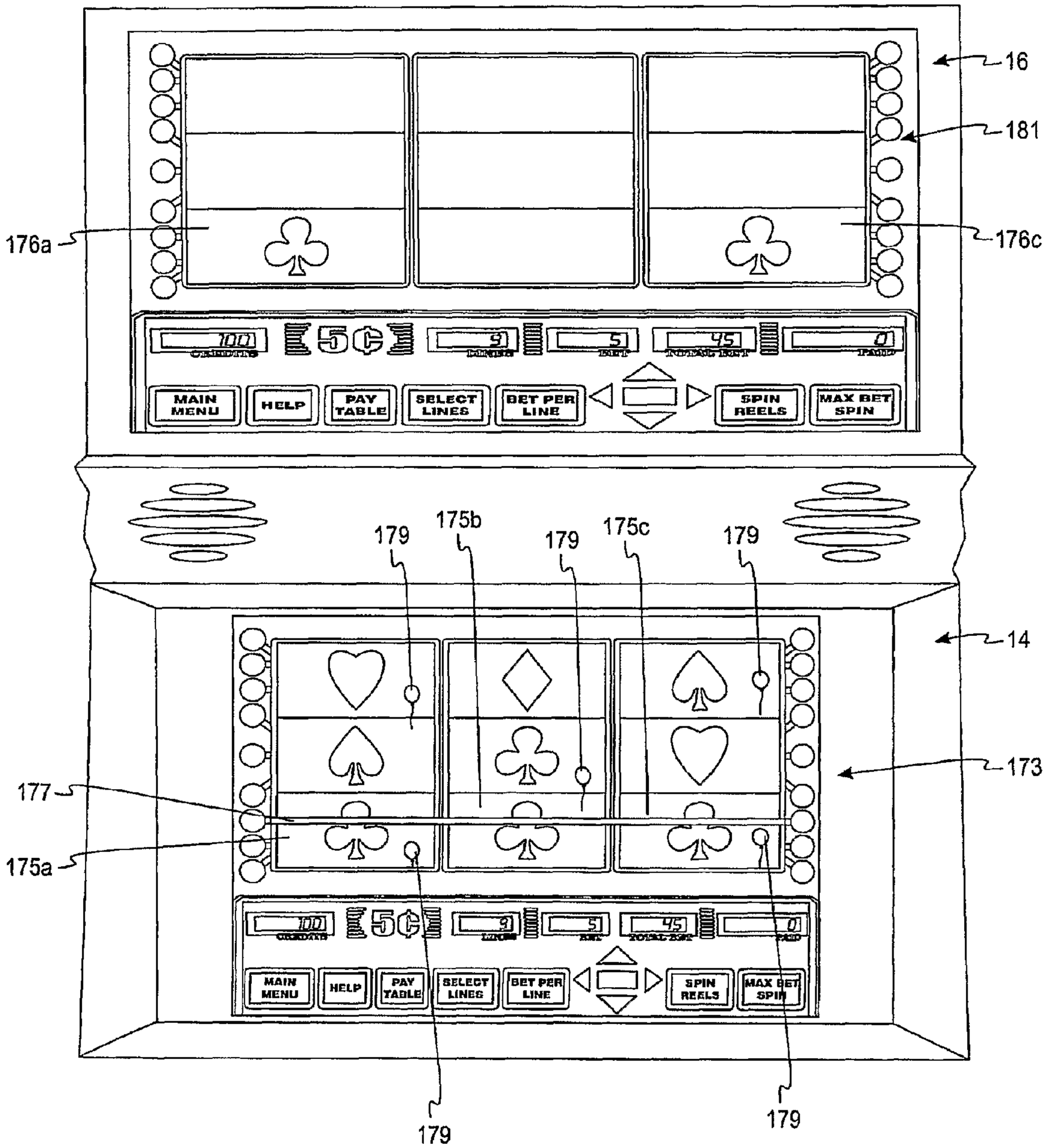

16
181
176a
176c
100
5¢
9
5
45
0
MAIN MENU
HELP
PAY TABLE
SELECT LINES
BET PER LINE
SPIN REELS
MAX BET SPIN
179
175b
179
175c
179
14
173
177
175a
179
179

Fig. 12b

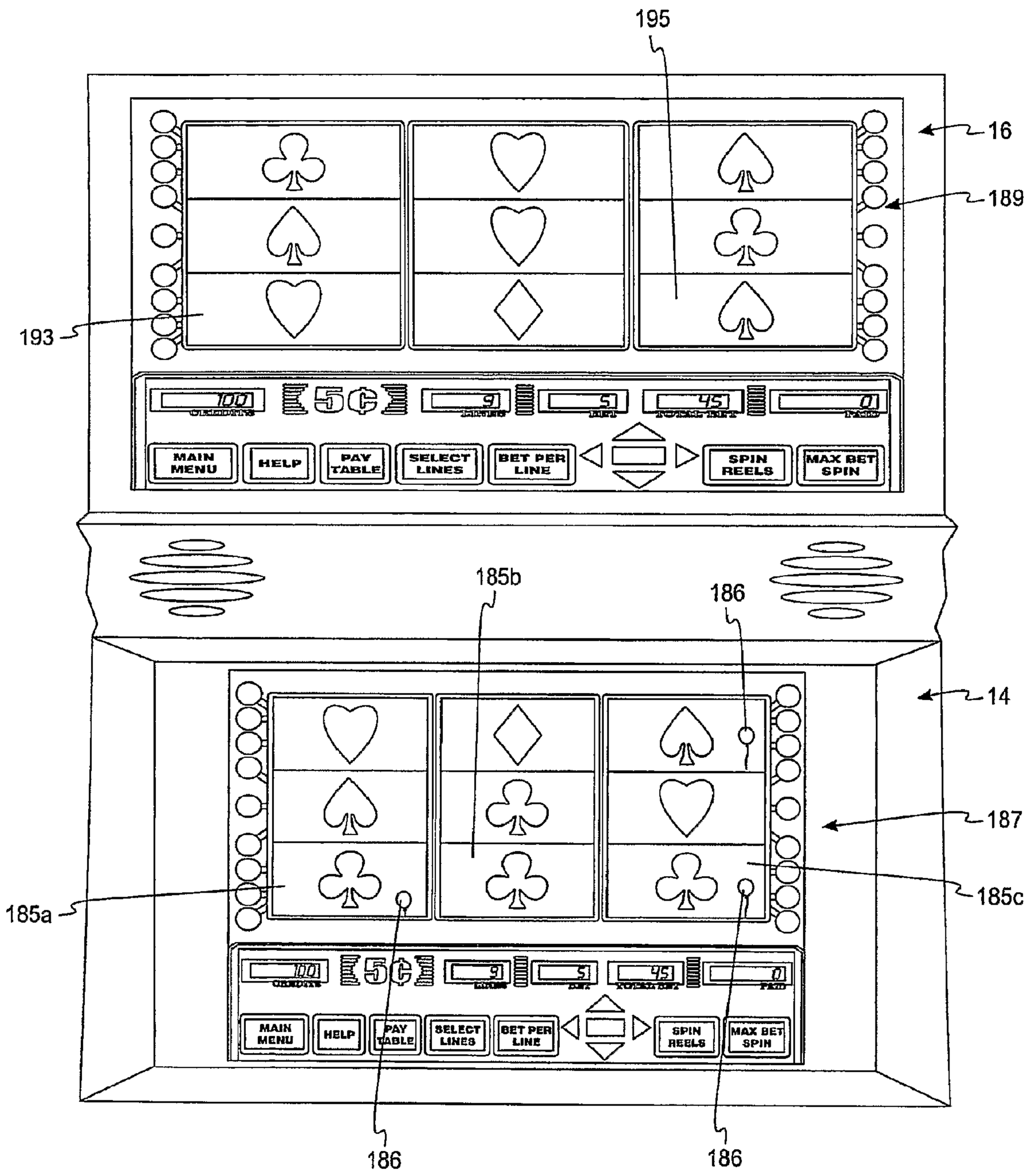

195
16
189
193
100
5¢
9
5
45
0
MAIN MENU
HELP
PAY TABLE
SELECT LINES
BET PER LINE
SPIN REELS
MAX BET SPIN
185b
186
14
187
185c
185a
186
186

Fig. 12c

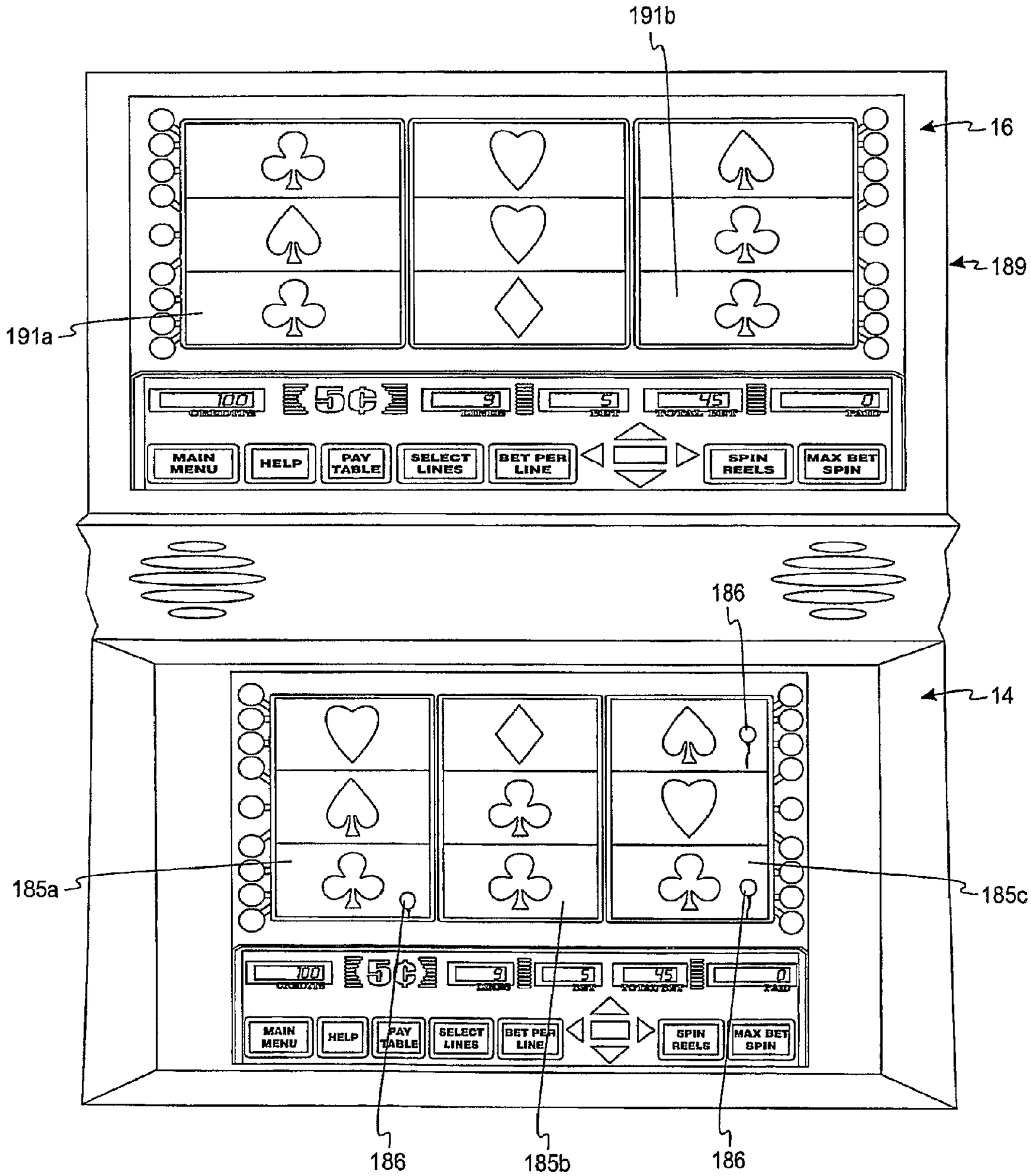

191b
16
189
191a
100
5¢
9
5
45
0
MAIN MENU
HELP
PAY TABLE
SELECT LINES
BET PER LINE
SPIN REELS
MAX BET SPIN
186
14
185a
185c
186
185b
186

Fig. 12d

WAGERING GAME WITH SYMBOLS FORMING AN ALTERED ARRAY OR SECONDARY ARRAY

CROSS REFERENCE TO RELATED APPLICATIONS

This application is a U.S. national stage of International Application No. PCT/US2007/010616, filed May 3, 2007, which is related to and claims priority to U.S. Provisional Application No. 60/797,600, filed May 4, 2006, each of which is incorporated herein in its entirety.

COPYRIGHT

FIELD OF THE INVENTION

The present invention relates generally to gaming machines and methods for playing wagering games, and more particularly, to a wagering game having a bonus feature.

BACKGROUND OF THE INVENTION

Gaming machines, such as slot machines, video poker machines and the like, have been a cornerstone of the gaming industry for several years. Generally, the popularity of such machines with players is dependent on the likelihood (or perceived likelihood) of winning money at the machine and the intrinsic entertainment value of the machine relative to other available gaming options. Where the available gaming options include a number of competing machines and the expectation of winning at each machine is roughly the same (or believed to be the same), players are likely to be attracted to the most entertaining and exciting machines. Shrewd operators consequently strive to employ the most entertaining and exciting machines, features, and enhancements available because such machines attract frequent play and hence increase profitability to the operator. Therefore, there is a continuing need for gaming machine manufacturers to continuously develop new games and improved gaming enhancements that will attract frequent play through enhanced entertainment value to the player.

One concept that has been successfully employed to enhance the entertainment value of a game is the concept of a "secondary" or "bonus" game that may be played in conjunction with a "basic" game. The bonus game may comprise any type of game, either similar to or completely different from the basic game, which is entered upon the occurrence of a selected event or outcome in the basic game. Generally, bonus games provide a greater expectation of winning than the basic game and may also be accompanied with more attractive or unusual video displays and/or audio. Bonus games may additionally award players with "progressive jackpot" awards that are funded, at least in part, by a percentage of coin-in from the gaming machine or a plurality of participating gaming machines. Because the bonus game concept offers tremendous advantages in player appeal and excitement relative to other known games, and because such games are attractive to both players and operators, there is a continuing need to develop gaming machines with new types of bonus games to satisfy the demands of players and operators.

In many current wagering games, once the player has played the basic game, the game ends, even if the result is a winning outcome. Although the player may win credits from a winning game, there is some disappointment that the game has ceased so quickly.

Therefore, there is a need for a wagering game to allow multiple spins or wins on a single pay-in or wager.

SUMMARY OF THE INVENTION

According to one aspect of the present invention, a gaming system includes an input device for receiving a wager to play a wagering game. The gaming system further includes a primary display for displaying a first array of symbols that indicates a randomly selected outcome of the wagering game. The gaming system further includes a secondary display for displaying a secondary array of symbols that indicates a secondary outcome of the wagering game. In response to a predetermined criterion, at least one symbol is moved from a first position in the first array to a second position in the secondary array to create a modified secondary array that indicates a winning outcome.

According to another aspect of the present invention, a method of conducting a wagering game is disclosed. The method comprises displaying a plurality of symbols in a first array of symbols indicating a randomly selected outcome of the wagering game. The method further comprises, in response to a predetermined criterion, moving at least one symbol from a first position in the first array to a second position in a secondary array to create a modified secondary array indicating a winning outcome.

According to another aspect of the present invention, a gaming system includes an input device for receiving a wager to play a wagering game. The gaming system further includes a display for displaying an array of cells having a plurality of symbols that indicate a randomly selected outcome of the wagering game. In response to a predetermined criterion, at least one additional symbol is added to the array of cells to create a modified array that indicates a winning outcome. The number of symbols in the modified array is greater than the number of symbols in the array of cells. The number of cells in the modified array is the same as the number of cells in the array of cells.

According to another aspect of the present invention, a method of conducting a wagering game is disclosed. The method includes displaying an array of cells having a plurality of symbols that indicate a randomly selected outcome of the wagering game. The method further includes, in response to a predetermined criterion, adding at least one additional symbol to the array of cells to create a modified array. The number of symbols in the modified array is greater than the number of symbols in the array of cells. The number of cells in the modified array is the same as the number of cells in the array of cells.

According to another aspect of the present invention, a gaming system includes an input device for receiving a wager to play a wagering game. The gaming system further includes a display for displaying an array of cells including a playable portion and a non-playable portion. The playable portion includes a plurality of symbols indicating a randomly selected outcome of the wagering game. In response to a predetermined criterion, a modified playable portion including a winning outcome is displayed. The modified playable portion includes at least one additional cell of the non-playable portion.

According to another aspect of the present invention, a method of conducting a wagering game includes receiving a wager input. The method further includes displaying an array of cells including a playable portion and a non-playable portion. The playable portion includes a plurality of symbols indicating a randomly selected outcome of the wagering game. The method further includes, in response to a predetermined criterion, displaying a modified playable portion indicating a winning outcome. The modified playable portion includes at least one at least one additional cell of the non-playable portion.

Additional aspects of the invention will be apparent to those of ordinary skill in the art in view of the detailed description of various embodiments, which is made with reference to the drawings, a brief description of which is provided below.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a perspective view of a gaming machine embodying the present invention;

FIG. **2** is a block diagram of a control system suitable for operating the gaming machine;

FIG. **3** is a display of an initial basic game screen according to one embodiment of the present invention;

FIG. **4** is a display of a screen subsequent to FIG. **3** according to one embodiment of the present invention;

FIG. **5***a* is a display of a screen subsequent to FIG. **3** according to another embodiment of the present invention;

FIG. **5***b* is a display of a screen subsequent to FIG. **5***a;*

FIG. **6***a* is a display of an initial basic game screen according to another embodiment of the present invention;

FIG. **6***b* is a display of a screen subsequent to FIG. **6***a;*

FIG. **6***c* is a display of another screen subsequent to FIG. **6***a;*

FIG. **7***a* is a display of an initial basic game screen according to another embodiment of the present invention;

FIG. **7***b* is a display of a screen subsequent to FIG. **7***a;*

FIG. **7***c* is a display of another screen subsequent to FIG. **7***a;*

FIG. **8***a* is a display of an initial basic game screen according to another embodiment of the present invention;

FIG. **8***b* is a display of a screen subsequent to FIG. **8***a;*

FIG. **9***a* is a display of an initial basic game screen and a secondary screen according to one embodiment of the present invention;

FIG. **9***b* is a display of a basic game screen and a secondary screen subsequent to FIG. **9***a;*

FIG. **9***c* is a display of a basic game screen and a secondary screen subsequent to FIG. **9***b;*

FIG. **9***d* is a display of a basic game screen and a secondary screen subsequent to FIG. **9***c;*

FIG. **10***a* is a display of an initial basic game screen and a secondary screen according to another embodiment of the present invention;

FIG. **10***b* is a display of a basic game screen and a secondary screen subsequent to FIG. **10***a;*

FIG. **11***a* is a display of an initial basic game screen and a secondary screen according to another embodiment of the present invention;

FIG. **11***b* is a display of a basic game screen and a secondary screen subsequent to FIG. **11***a.*

FIG. **12***a* is a display of an initial basic game screen and a secondary screen according to another embodiment of the present invention;

FIG. **12***b* is a display of a basic game screen and a secondary screen subsequent to FIG. **12***a.*

FIG. **12***c* is a display of a basic game screen and a secondary game screen according to yet another embodiment of the present invention.

FIG. **12***d* is a display of a basic game screen and a secondary screen subsequent to FIG. **12***c.*

DETAILED DESCRIPTION

While this invention is susceptible of embodiments in many different forms, there is shown in the drawings and will herein be described in detail preferred embodiments of the invention with the understanding that the present disclosure is to be considered as an exemplification of the principles of the invention and is not intended to limit the broad aspect of the invention to the embodiments illustrated.

Referring to FIG. **1**, a gaming machine **10** is used in gaming establishments such as casinos. With regard to the present invention, the gaming machine **10** may be any type of gaming machine and may have varying structures and methods of operation. For example, the gaming machine **10** may be an electromechanical gaming machine configured to play mechanical slots, or it may be an electronic gaming machine configured to play a video casino game, such as blackjack, slots, keno, poker, blackjack, roulette, etc.

The gaming machine **10** comprises a housing **12** and includes input devices, including a value input device **18** and a player input device **24**. For output the gaming machine **10** includes a primary display **14** for displaying information about the basic wagering game. The primary display **14** can also display information about a bonus wagering game and a progressive wagering game. The gaming machine **10** may also include a secondary display **16** for displaying game events, game outcomes, and/or signage information. While these typical components found in the gaming machine **10** are described below, it should be understood that numerous other elements may exist and may be used in any number of combinations to create various forms of a gaming machine **10**.

The value input device **18** may be provided in many forms, individually or in combination, and is preferably located on the front of the housing **12**. The value input device **18** receives currency and/or credits that are inserted by a player. The value input device **18** may include a coin acceptor **20** for receiving coin currency (see FIG. **1**). Alternatively, or in addition, the value input device **18** may include a bill acceptor **22** for receiving paper currency. Furthermore, the value input device **18** may include a ticket reader, or barcode scanner, for reading information stored on a credit ticket, a card, or other tangible portable credit storage device. The credit ticket or card may also authorize access to a central account, which can transfer money to the gaming machine **10**.

The player input device **24** comprises a plurality of push buttons **26** on a button panel for operating the gaming machine **10**. In addition, or alternatively, the player input device **24** may comprise a touch screen **28** mounted by adhesive, tape, or the like over the primary display **14** and/or secondary display **16**. The touch screen **28** contains soft touch keys **30** denoted by graphics on the underlying primary display **14** and used to operate the gaming machine **10**. The touch screen **28** provides players with an alternative method of input. A player enables a desired function either by touching the touch screen **28** at an appropriate touch key **30** or by pressing an appropriate push button **26** on the button panel. The touch keys **30** may be used to implement the same functions as push buttons **26**. Alternatively, the push buttons **26** may provide inputs for one aspect of the operating the game, while the touch keys **30** may allow for input needed for another aspect of the game.

The various components of the gaming machine **10** may be connected directly to, or contained within, the housing **12**, as seen in FIG. **1**, or may be located outboard of the housing **12** and connected to the housing **12** via a variety of different wired or wireless connection methods. Thus, the gaming machine **10** comprises these components whether housed in the housing **12**, or outboard of the housing **12** and connected remotely.

The operation of the basic wagering game is displayed to the player on the primary display **14**. The primary display **14** can also display the bonus game associated with the basic wagering game. The primary display **14** may take the form of a cathode ray tube (CRT), a high resolution LCD, a plasma display, an LED, or any other type of display suitable for use in the gaming machine **10**. As shown, the primary display **14** includes the touch screen **28** overlaying the entire display (or a portion thereof) to allow players to make game-related selections. Alternatively, the primary display **14** of the gaming machine **10** may include a number of mechanical reels to display the outcome in visual association with at least one payline **32**. In the illustrated embodiment, the gaming machine **10** is an "upright" version in which the primary display **14** is oriented vertically relative to the player. Alternatively, the gaming machine may be a "slant-top" version in which the primary display **14** is slanted at about a thirty-degree angle toward the player of the gaming machine **10**.

A player begins play of the basic wagering game by making a wager via the value input device **18** of the gaming machine **10**. A player can select play by using the player input device **24**, via the buttons **26** or the touch screen keys **30**. The basic game consists of a plurality of symbols arranged in an array, and includes at least one payline **32** that indicates one or more outcomes of the basic game. Such outcomes are randomly selected in response to the wagering input by the player. At least one of the plurality of randomly-selected outcomes may be a start-bonus outcome, which can include any variations of symbols or symbol combinations triggering a bonus game.

In some embodiments, the gaming machine **10** may also include a player information reader **52** that allows for identification of a player by reading a card with information indicating his or her true identity. The player information reader **52** is shown in FIG. **1** as a card reader, but may take on many forms including a ticket reader, bar code scanner, RFID transceiver or computer readable storage medium interface. Currently, identification is generally used by casinos for rewarding certain players with complimentary services or special offers. For example, a player may be enrolled in the gaming establishment's loyalty club and may be awarded certain complimentary services as that player collects points in his or her player-tracking account. The player inserts his or her card into the player information reader **52**, which allows the casino's computers to register that player's wagering at the gaming machine **10**. The gaming machine **10** may use the secondary display **16** or other dedicated player-tracking display for providing the player with information about his or her account or other player-specific information. Also, in some embodiments, the information reader **52** may be used to restore game assets that the player achieved and saved during a previous game session.

Turning now to FIG. **2**, the various components of the gaming machine **10** are controlled by a central processing unit (CPU) **34**, also referred to herein as a controller or processor (such as a microcontroller or microprocessor). To provide gaming functions, the controller **34** executes one or more game programs stored in a computer readable storage medium, in the form of memory **36**. The controller **34** performs the random selection (using a random number generator (RNG)) of an outcome from the plurality of possible outcomes of the wagering game. Alternatively, the random event may be determined at a remote controller. The remote controller may use either an RNG or pooling scheme for its central determination of a game outcome. It should be appreciated that the controller **34** may include one or more microprocessors, including but not limited to a master processor, a slave processor, and a secondary or parallel processor.

The controller **34** is also coupled to the system memory **36** and a money/credit detector **38**. The system memory **36** may comprise a volatile memory (e.g., a random-access memory (RAM)) and a non-volatile memory (e.g., an EEPROM). The system memory **36** may include multiple RAM and multiple program memories. The money/credit detector **38** signals the processor that money and/or credits have been input via the value input device **18**. Preferably, these components are located within the housing **12** of the gaming machine **10**. However, as explained above, these components may be located outboard of the housing **12** and connected to the remainder of the components of the gaming machine **10** via a variety of different wired or wireless connection methods.

As seen in FIG. **2**, the controller **34** is also connected to, and controls, the primary display **14**, the player input device **24**, and a payoff mechanism **40**. The payoff mechanism **40** is operable in response to instructions from the controller **34** to award a payoff to the player in response to certain winning outcomes that might occur in the basic game or the bonus game(s). The payoff may be provided in the form of points, bills, tickets, coupons, cards, etc. For example, in FIG. **1**, the payoff mechanism **40** includes both a ticket printer **42** and a coin outlet **44**. However, any of a variety of payoff mechanisms **40** well known in the art may be implemented, including cards, coins, tickets, smartcards, cash, etc. The payoff amounts distributed by the payoff mechanism **40** are determined by one or more pay tables stored in the system memory **36**.

Communications between the controller **34** and both the peripheral components of the gaming machine **10** and external systems **50** occur through input/output (I/O) circuits **46**, **48**. More specifically, the controller **34** controls and receives inputs from the peripheral components of the gaming machine **10** through the input/output circuits **46**. Further, the controller **34** communicates with the external systems **50** via the I/O circuits **48** and a communication path (e.g., serial, parallel, IR, RC, 10bT, etc.). The external systems **50** may include a gaming network, other gaming machines, a gaming server, communications hardware, or a variety of other interfaced systems or components. Although the I/O circuits **46**, **48** may be shown as a single block, it should be appreciated that each of the I/O circuits **46**, **48** may include a number of different types of I/O circuits.

Controller **34**, as used herein, comprises any combination of hardware, software, and/or firmware that may be disposed or resident inside and/or outside of the gaming machine **10** that may communicate with and/or control the transfer of data between the gaming machine **10** and a bus, another computer, processor, or device and/or a service and/or a network. The controller **34** may comprise one or more controllers or processors. In FIG. **2**, the controller **34** in the gaming machine **10** is depicted as comprising a CPU, but the controller **34** may alternatively comprise a CPU in combination with other components, such as the I/O circuits **46**, **48** and the system memory **36**.

Turning now to FIG. **3**, the primary display **14** of one embodiment is shown in more detail. In this embodiment, the basic game is a slot machine game, with symbols on five

different reels **62***a*, **62***b*, **62***c*, **62***d*, **62***e*. The reels **62***a-e* may be traditional mechanical reels, electromechanical reels, or computer-generated images of reels, with each reel having a plurality of symbols thereon. The symbols on the reels **62***a-e* fill an array **63** having three rows **65***a*, **65***b*, **65***c* and columns of the five reels **62***a-e* made of individual cells **70**. In the illustrated embodiment, there are multiple pay lines shown by the pay line indicators **71***a-i* across the various reels **62***a-e*. While multiple pay lines are shown, a gaming terminal **10** with a single pay line may also be used with the present invention. An outcome indicator **72** indicates whether the outcome has resulted in a payout, a progressive jackpot, a bonus game, or whether it resulted in no reward at all.

In the illustrated examples, various combinations of symbols, either along active pay lines or in predefined cell locations, patterns, or quantities, may indicate prizes including monetary and non-monetary prizes. The non-monetary prizes include free spins, multipliers, entry into a bonus game, entry into a progressive game, or the like.

During the basic game of the illustrated embodiment of FIG. **3**, the player places a wager on any number of the pay lines, as denoted by the pay line indicators **71***a-i*. In the illustrated embodiment, the wager may be between one and five credits per pay line. However, in other embodiments, other wager amounts may be made. Once the player has placed the wager and activated the "spin reels" button **66***f*, the reels **62***a-e* begin to spin. As illustrated in FIG. **3**, near the bottom of the display **14** are a plurality of keys **66***a-g* that enable the player to perform various functions, such as select the pay lines to play, select a wager amount, and spin the reels **62***a-e*. The result of the spin may be displayed on one or more outcome indicators **72** located above the keys **66***a-g*. For example, the outcome indicator **72** may provide the player with information such as the amount of the current wager, the amount awarded, the total number of credits remaining, and the like. Winning pay lines may be highlighted on the primary display **14**.

In the illustrated example of FIG. **3**, the player has made a wager, and the reels **62***a-e* have spun. In this embodiment, pay line **61** traverses the middle cells on the first two reels **62***a,b*, the bottom cell on the third reel **62***c*, and the middle cells on the fourth and fifth reels **62***d,e*. At the conclusion of the reel spin depicted in FIG. **3**, pay line **61** includes three outhouse symbols **73***a-c*, a cow symbol **74**, and a plane symbol **75** creates a winning symbol combination. The player is awarded an initial basic game payout according to a basic game pay table, as shown on the outcome indicator **72**. The pay table for the basic game indicates the possible winning combinations of symbols and the initial payout associated with each winning combination prior to any bonus events. For line pays (i.e., winning combinations that must appear on an active pay line), the payout is typically multiplied by the number of credits wagered on the winning pay line. For scatter pays (i.e., winning combinations that must appear on the display in a predetermined configuration but need not appear on an active pay line), the payout may be multiplied by the total number of credits wagered.

Symbol Scramble

In many traditional gaming machines, the basic game concludes following the stopping of the reels, the evaluation of the winning combinations, and the payment of awards. However, according to one embodiment of the present invention, after a player achieves a winning symbol combination (e.g., on an activated pay line) and is awarded an initial basic game payout, one or more symbols of the winning combination is scrambled, or trades positions with another symbol, within the array. The symbols comprising the winning combination exchange positions with other symbols (e.g., non-winning symbols) of the array. As illustrated in FIGS. **3-4**, the outhouse symbols **73***a-c* of the winning combination have traded positions with a dog symbol **75***a*, a second dog symbol **75***b*, and a farmhouse symbol **76**, respectively, thus forming a modified array **77** (FIG. **4**). However, the reels **62***a-e* have not been spun. Rather, the modified array **77** is formed using only the symbols in the original array **63**, by scrambling the symbols **73***a-c* of the winning combination with other symbols in the array **63** that were not part of the winning combination.

After the scramble, the modified array **77** may be reevaluated for any new winning symbol combinations. It is contemplated that only the pay lines that were activated in the initial game may be reevaluated. It is also contemplated that all pay lines may be reevaluated. If the modified array **77** includes new winning symbol combinations, the player is awarded the payout associated with the new winning symbol combinations.

In FIG. **4**, for example, a new winning symbol combination is achieved on a pay line **78***a*, which traverses the middle row of the modified array **77**. The new winning combination of symbols—dog symbols **75***a-c*—may then again exchange positions with other symbols of the modified array **77** to create another modified array. This iterative process may be permitted to continue until no more winning symbol combinations are achieved. Alternatively, this may continue for a predetermined number of times (e.g., based on the number of credits initially wagered by the player).

In an alternative embodiment, less than all of the symbols of the winning combination may be scrambled. For example, the number of symbols of the winning combination that are scrambled may depend on the number of credits initially wagered by the player (e.g., one credit wagered yields one symbol scrambled, two credits wagered yield two symbols scrambled, etc.). It is contemplated that the number of symbols scrambled may also depend on other factors. Moreover, the player may be permitted to select which of the symbols of the winning combination and/or which non-winning symbols are to be scrambled, although the final locations of the scramble are not known to the player. It is further contemplated that the symbols that are to be scrambled may be randomly selected by the controller **34**.

According to another embodiment, a gaming machine is provided. The gaming machine comprises an input device for receiving inputs from a player during a wagering game, the inputs including a wager amount. The gaming machine further comprises a display for displaying an array of symbols that indicates a randomly selected outcome of the wagering game. In response to the randomly selected outcome including a winning symbol combination, at least one winning symbol indicating the winning outcome is moved from a first position to a second position in the array of symbols to create a modified array that indicates an additional winning outcome. The one of the plurality of symbols at the second position may be moved to the first position.

According to another embodiment, a method of conducting a wagering game having a randomly selected outcome is provided. The method comprises displaying a plurality of symbols in an array indicating the randomly selected outcome. The method further comprises, in response to a winning outcome being indicated by a winning symbol combination along an active pay line, moving at least one winning symbol of the winning symbol combination to another position in the array. The moving may include trading positions with another symbol in the array.

Additive Symbols

According to another embodiment, after the player achieves a winning symbol combination in an initial spin, the player is awarded a bonus game. During the bonus game, one or more of the symbols of the winning combination of the initial spin are "frozen," or held in their corresponding position or cell **70** in the array. Additionally, a plurality of secondary symbols is added to each of the cells **70** having a frozen symbol. The secondary symbols may, for example, be randomly selected. Thus, a modified array may be formed in the bonus game in which one or more of the cells **70** previously containing a symbol from the initial winning combination include both the corresponding winning symbol of the initial spin and a secondary symbol. The resulting modified array may be reevaluated to determine whether additional winning symbol combinations including secondary symbols have been achieved. Additionally, prior to reevaluating the modified array, the non-winning symbols of the initial spin may be, for example, replaced with new symbols, shifted, scrambled, cascaded, or combinations thereof.

Referring back to FIG. **3**, for example, the winning combination of outhouse symbols **73***a-c* is be frozen during the bonus game, and a secondary symbol **79** is added to each of the cells containing the frozen outhouse symbols **73***a-c*, as illustrated in FIG. **5***a*. The remaining, non-winning cells are replaced with other randomly selected, new symbols, forming a modified array **79***a*. The regeneration of additional symbols into the modified array **79***a* may result in one or more new winning symbol combinations being achieved in the bonus game. If a new winning combination is achieved, the player is awarded the payout associated with the new winning symbol combination. According to one embodiment, the player may also be awarded a second bonus game. In FIG. **5***a*, for example, the modified array **79***a* includes a new winning symbol combination including four dog symbols **80***a-d* on a pay line **78***b* forming a "V" shape on the modified array **79***a*, which may yield another payout and a second bonus game. In the illustrated embodiment, the four dog symbol combination **80***a-d* is formed by two regenerated dog symbols **80***a, d* and two secondary dog symbols **80***b,c*. It should be understood that additional wins may be formed using exclusively regenerated symbols, exclusively secondary symbols **79**, or any combination thereof.

A second bonus game is shown in FIG. **5***b*. The second bonus game includes a further modified bonus array **79***b* resulting from the four dog symbol combination **80***a-d* in the first bonus game. During the second bonus game, the winning combination of outhouse symbols **73***a-c* from the initial game as well as the winning combination of dogs symbols **80***a-d* of the first bonus game are frozen and a tertiary symbol is added to each of the cells containing at least one of the outhouse symbols **73***a-c* and/or dogs symbols **80***a-d*, as illustrated in FIG. **5***b*. In an alternative embodiment, only the winning symbols of the immediately preceding spin may be frozen (i.e., the outhouse symbols **73***a-c* are removed—or "unfrozen") during the subsequent bonus game. Alternatively, only the initially winning symbols of the initial game may be frozen while the secondary symbols **79** are removed (i.e., the dog symbols **80***a-d* are removed—or "unfrozen"—during the second bonus game). The resulting second bonus array **79***b* may then be reevaluated. Alternatively, prior to reevaluating the second bonus array **79***b*, the non-winning symbols of the remaining cells may be again regenerated and replaced with new symbols, and the resulting second bonus array may then be reevaluated. This may continue until no more winning symbol combinations are achieved. Alternatively, this may continue for a predetermined number of times (e.g., based on the number of credits initially wagered by the player).

In some embodiments, to avoid repeated payouts for the same winning symbol combination, the payout for each winning symbol combination may only occur once. Thus, the winning combination of outhouse symbols **73***a-c* may not yield a winning combination in the following bonus game unless one or more of the outhouse symbols **73***a-c* is paired with at least one new or additional symbol to form a new winning symbol combination. In other embodiments, the gaming machine **10** may pay out for the winning combination of symbols of the initial game during a proceeding bonus game. Alternatively, the pay line that included the winning combination may be "deactivated" and, thus, may not yield another win during a proceeding bonus game.

Furthermore, it should be understood that less than all of the symbols of the winning combination may be frozen. For example, the number of symbols of the winning combination that are frozen may depend on the number of credits initially wagered by the player (e.g., one credit wagered yields one frozen symbol, two credits wagered yield two symbols frozen symbols, etc.). It is also contemplated that the number of frozen symbols may depend on other factors. Such an additive-symbol feature as illustrated in FIGS. **5***a* and **5***b* increases the player's anticipation of achieving a second winning symbol combination during a proceeding bonus game.

Modified Array

According to another embodiment of the present invention, the gaming machine **10** includes an array having a playable portion and a non-playable portion. The non-playable portion includes invisible and/or inactivated cells (e.g., rows or columns). In embodiments where the non-playable portion is visible, it is contemplated that the non-playable portion may be visually distinguished from the playable portion in various ways including, but not limited to, different colored backgrounds, brightness, borders, and combinations thereof. According to one embodiment of the present invention, if, during an initial spin, a player achieves a winning combination of symbols on the playable portion of the array, the player is awarded an initial payout and a bonus game. During the bonus game, the playable portion of the array is modified (e.g., shifted, enlarged, reduced, moved, or the like) to include one or more cells **70** of the non-playable portion of the array are made visible and/or activated and are, thus, added to the playable portion. The player is therefore provided with an additional and increased opportunity to achieve winning symbol combinations. It may be desirable for the non-playable portion of the array to be visible to the player such that the level of anticipation experienced by the player may be elevated.

In the embodiment of FIGS. **6***a-c*, for example, a full 5×5 array **81** is illustrated. The full array **81** includes a playable portion **82**, which is a 3×3 array. The full array **81** also includes a non-playable portion **83**. In the illustrated embodiment of FIG. **6***a*, the non-playable portion **83** includes a column **84***a* to the left of the playable portion **82**, a column **84***b* to the right of the playable portion **82**, a row **85***a* above the playable portion **82**, and a row **85***b* below the playable portion **82**. Thus, the cells **70** of the non-playable portion **83** form a border around the playable portion **82**. It should be understood that the non-playable portion **83** may include other portions of the full array **81**. The non-playable portion **83** in the illustrated embodiment is visible but generally appears dimmer than the playable portion **82** of the full array **81**.

In the embodiment of FIG. **6***a*, a player has achieved a winning combination in a middle pay line including three girl symbols **86***a-c*. After being awarded the initial payout, the

playable portion **82** is shifted one column to the left, thereby forming a modified playable portion **87**, as shown in FIG. **6***b*. The playable portion **82** of FIG. **6***a* may be shifted in any direction (i.e., left, right, up, down, or diagonal) to create the modified playable portion **87**. Additionally, the playable portion **82** may be shifted more than one column, row, or combination of columns and rows, or may alternatively be reduced, enlarged, or the like to comprise the modified playable portion **87**. The modified playable portion **87** of FIG. **6***b* may then be evaluated to determine whether additional winning symbol combinations have been achieved. If the new playable portion **87** includes an additional winning symbol combination, the player may be awarded the payout associated with the new winning symbol combination. Additionally, the modified playable portion **87** may be shifted such that a further modified playable portion (not shown) is formed. This may continue until no more winning combinations are achieved. Alternatively, this may continue for a predetermined number of times (e.g., based on the number of credits initially wagered by the player).

According to another embodiment, after at least one winning symbol combination is achieved in the playable portion, the array is modified so that at least one additional row and/or column from a non-playable portion of a corresponding full array is added to the playable portion. In the embodiment of FIG. **6***c*, for example, after achieving the winning combination of girl symbols **86***a-c* (see FIG. **6***a*), a portion of the non-playable portion **83** comprising the top row **85***a* is added to the playable portion **82** (see FIG. **6***a*), thus forming a new, 3×4 playable portion **88**. It is contemplated that any cells, rows, columns, or combinations thereof of the non-playable portion **83** (see FIG. **6***a*) may be added to the playable portion **82**. Which cells and/or the amount of cells of the non-playable portion **83** added to the playable portion **82** of the full array **81** may, for example, depend on how many credits the player initially wagered or on the winning combination of symbols. It is also contemplated that the cells **70** and/or the amount of cells of the non-playable portion **83** added to the playable portion **82** may depend on other factors or may be random.

The modified playable portion **88** may then be evaluated to determine whether new winning symbol combinations have been achieved. If the modified playable portion **88** includes new winning symbol combinations, the player may be awarded the payout associated with the new winning combination. Furthermore, cells (e.g., rows and/or columns) of the remaining non-playable portion **89** may be further added such that a further modified playable portion (not shown) is formed. This may continue until no more winning symbol combinations are achieved. Alternatively, this may continue for a predetermined number of times (e.g., based on the number of credits initially wagered by the player).

In modifying the array, the direction in which the playable portion is shifted, enlarged, reduced, or the like or the cells of the non-playable portion that are added to the playable portion may be determined in a variety of ways. According to one embodiment, for example, the shifting direction or cells to be added are randomly chosen by the gaming machine **10**. According to another embodiment, the shifting direction or cells to be added are chosen by the player. For example, the player may be given a specified time interval in which to select a new playable portion by the player interacting with the gaming machine **10** (e.g., pressing a button). If the player has not interacted with the gaming machine **10** by the time the specified time interval lapses, the shifting direction or cells to be added are randomly determined by the gaming machine (e.g., controller **34**). It is contemplated that the display may display the shifting direction or cells to be added if the player does not make his or her selection before the specified time interval lapses.

Additionally or alternatively, the gaming machine **10** may continuously randomly highlight a different, new playable portion, e.g., every fraction of a second. The playable portion **82** that is highlighted when the player interacts with the gaming machine (e.g., presses a button) becomes the modified playable portion **87** during the bonus game. According to one embodiment illustrated in FIG. **3***a*, for example, the gaming machine **10** includes an icon **90** having four arrows **91***a-d*. Each arrow **91***a-d* represents a different direction (i.e., up, down, left, right). A different arrow **91***a-d* is highlighted every, e.g., fraction of a second until a player interacts with the gaming machine (e.g., presses a button **92**). The array may then be shifted in the direction corresponding with the arrow that is highlighted when the button **92** is pressed, and the resulting new playable portion may then be evaluated. Alternatively, one or more cells adjacent to the playable portion in the direction corresponding with the highlighted arrow may be added to the playable portion, and the resulting new playable portion may then be evaluated.

According to yet another embodiment, the shifting direction or cells to be added depend on the winning combination of symbols. Referring to FIG. **7***a*, for example, a winning combination of symbols of a playable portion **93** includes arrow symbols **94***a-c* pointing toward the upper right corner of a full array **95**. According to one embodiment illustrated in FIG. **7***b*, the playable portion **93** is correspondingly shifted toward the upper right corner of the full array **95** (i.e., one column to the right and one row up). It is also contemplated that the playable portion **93** of FIG. **7***a* may be shifted either one column to the right or one row up. The determination may be made, for example, based on the player's choice, a selection made randomly by the gaming machine **10**, or the like. According to another embodiment illustrated in FIG. **7***c*, a portion of a column **96** to the right of the initially playable portion **93** and a portion of a row **97** above the initially playable portion **93** are added to the initially playable portion **93** of FIG. **7***a*. It should be understood that either a portion of the column **96** to the right of the initially playable portion **93** or a portion of the row **97** above the initially playable portion **93** may be added to the initially playable portion **93**. The determination may be made, for example, based on the player's choice, a selection made randomly by the gaming machine **10**, or the like.

It is contemplated that the shifting direction or cells to be added may be indicated by a subscript depicted in a cell. For example, cells of an array may include subscripts having arrows pointing in various directions.

In some embodiments, to avoid repeated payouts for the same winning symbol combination, it is contemplated that the payout for each winning symbol combination may only occur once. In other embodiments, the gaming machine **10** may pay out for the same winning symbol combination more than once. It is contemplated that the shifting direction or cells to be added may be determined in ways other than those described herein.

Symbol Slide

According to another embodiment of the present invention, a player is awarded a bonus game in which each symbol of the winning symbol combination of the basic game shifts or slides in a first direction, e.g., at least one cell position up, down, right, left, or a combination thereof, thereby forming a modified array. The non-winning symbols adjacent to the winning combination of symbols in the first direction and/or in a direction opposite the first direction may also slide in the

first direction. For example, if the symbols of the winning combination are to be slid upward, non-winning cells above and/or below the winning symbol combination may correspondingly be slid upward. New symbols may be added to the array. The modified array may then be evaluated.

In the embodiment of FIG. **8***a*, for example, a 5×5 array **98** includes a pay line **100** including a winning combination of heart symbols **101***a-c*. The heart symbols **101***a-c* are positioned in a middle row **102** and in a first column **103***a*, a second column **103***b*, and a third column **103***c*, respectively. According to the embodiment illustrated in FIG. **8***b*, during the bonus game, the winning combination of heart symbols **101***a-c* slides down one row into a row **104** below the middle row **102**. Each of the symbols positioned in the columns **103***a-c* including the winning combination of heart symbols **101***a-c* correspondingly slide down one cell **70**. The symbols positioned in remaining columns **103***d-e* do not slide or move. A resulting modified array **105** is illustrated in FIG. **8***b*.

In the embodiment of FIGS. **8***a,b*, the modified array **105** includes a new winning combination of four diamond symbols **106***a-d* in a pay line **108**. The player may be awarded the payout associated with the new winning combination of diamond symbols **106***a-d*. Additionally, the player may be awarded a second bonus game in which the new winning combination of diamond symbols **106***a-d* slides at least one cell up, down, right, left, or a combination thereof, thereby forming a further modified array (not shown). This may continue until no more winning symbol combinations are achieved. Alternatively, this may continue for a predetermined number of times (e.g., based on the number of credits initially wagered by the player). In some embodiments, to avoid repeated payouts for the same winning combination, the payout for each winning symbol combination may only occur once. In other embodiments, the gaming machine **10** may pay out for the winning combination of symbols of the initial game again.

In the embodiment of FIG. **8***b*, when the symbols positioned in the columns **103***a-c* including the winning combination of heart symbols **101***a-c* slide down one row, the symbols previously positioned on a bottom row **109** of the corresponding columns **103***a-c* wrap around the corresponding columns **103***a-c* and become positioned on the top row **110** of the modified array **105**. For example, the diamond symbol **106***a* is positioned in the first column **103***a* and the bottom row **109** of the array **98** of the basic game (FIG. **8***a*). During the bonus game, the diamond. symbol **106***a* wraps around the first column **103***a* and becomes positioned in the top row **110** of the first column **103***a* (see FIG. **8***b*). According to another embodiment, the symbols do not wrap around the corresponding row or column; instead, random, new symbols are added to the array.

It is contemplated that the direction in which the symbols of the array (e.g., array **98**) having a winning symbol combination (e.g., heart symbols **101***a-c*) slide. may be determined in a variety of ways. Non-limiting examples of how this direction may be determined are described above with respect to the embodiment of FIGS. **6***a-c* and **7***a-c*.

According to another embodiment, a gaming machine is provided. The gaming machine comprises an input device for receiving inputs from a player during a wagering game, the inputs including a wager amount. The gaming machine further comprises a display for displaying an array of symbols that indicates a randomly selected outcome of the wagering game. In response to the randomly selected outcome including a winning symbol combination, at least one winning symbol indicating the winning outcome is moved from a first position to a second position in the array of symbols to create a modified array that indicates an additional winning outcome. The first position may be adjacent to the second position in a first direction. At least one of the plurality of symbols adjacent to the at least one winning symbol may be moved in the first direction.

According to another embodiment, a method of conducting a wagering game having a randomly selected outcome is provided. The method comprises displaying a plurality of symbols in an array indicating the randomly selected outcome. The method further comprises, in response to a winning outcome being indicated by a winning symbol combination along an active pay line, moving at least one winning symbol of the winning symbol combination to another position in the array. The moving may include sliding the at least one winning symbol in a first direction. The method may further comprise sliding an at least one non-winning symbol in the first direction, the at least one non-winning symbol being directly adjacent to the at least one winning symbol along a winning pay line.

Hold/Cascade Corresponding Symbols on Secondary Display

According to another embodiment of the present invention, the primary display **14** includes a first array **130** and the secondary display **16** includes a secondary array **134** (see, e.g., FIG. **9***a*). A winning combination of symbols in the first array may trigger a modification of symbols of the second array. For example, symbols of the secondary array located in cell positions corresponding with cell positions of one or more winning symbols of the first array may be "autoheld," cascaded, or the like.

Referring to the embodiment of FIGS. **9***a-d*, a winning combination includes at least three matching symbols beginning in a first column **132***a* reading from left to right and/or beginning in a fifth column **132***e* reading from right to left on an activated pay line. Thus, in the embodiment of FIG. **9***a*, for example, a winning combination of girl symbols **129***a-c* of a first array **130** is achieved on the primary display **14** during an initial, basic game. Each of the girl symbols **129***a-c* is positioned in a second row **131** and in a third column **132***c*, a fourth column **132***d*, and a fifth column **132***e*, respectively, of the first array **130**. The player may then be awarded the corresponding initial payout and/or a bonus game. According to the embodiment of FIGS. **9***a,b*, the bonus game is conducted on the secondary display **16** and a corresponding secondary array **134** displayed thereon. In the illustrated embodiment of FIG. **9***b*, during the bonus game, symbols **135***a-c* in the secondary array **134** located in cells **70** having a position corresponding with the position of cells containing the winning combination of girl symbols **129***a-c* in the first array **130** (i.e., the second row **131**, the third, fourth, and fifth columns **132***c-e*) are placed on "autohold," or frozen in the corresponding cell positions. The remaining cells of the secondary array **134** are, for example, shifted downward, resulting in a modified secondary array **141** (see FIG. **9***b*). It is contemplated that the remaining cells may be shifted at least one cell in other directions (i.e., up, down, right, left, or combinations thereof), scrambled, cascaded, or the like. The modified secondary array **141** may be evaluated to determine whether any new winning symbol combinations have been achieved. In the embodiment of FIG. **9***b*, a winning symbol combination includes any contiguous combination of three matching symbols. Thus, a second row **143** of the modified secondary array **141** includes a second winning combination of contiguous farmhouse symbols **135***a,b*, **136**.

According to one embodiment, the wagering game of FIGS. **9***a,b* includes a recursive feature in which the bonus game "flip-flops" between being played on the primary dis-

play **14** and on. the secondary display **16**. For example, in addition to the payout awarded for the winning combination of farmhouse symbols **135***a,b*, **136** in FIG. **9***b*, the player may be awarded a second bonus game in which symbols **147**, **129***a,b* in the first array **130** located in cells having a position corresponding with the position of the cells containing the winning combination of farmhouse symbols **135***a,b*, **136** in the modified secondary array **141** (i.e., the second row **131**, the second, third, and fourth columns **132***b-d*) are placed on "autohold." Thus, the second, third, and fourth symbols **147**, **129***a,b* in the second row **131** of the first array **130** are autoheld. The remaining cells of the first array **130** are, for example, shifted downward, resulting in a new first array **149** (see FIG. **9***c*). It is contemplated that the remaining cells may be shifted in other directions (i.e., up, down, right, left, or combinations thereof), scrambled, cascaded, or the like. This flip-flopping between the array of the primary display **14** and the array of the secondary display **16** may continue until no more winning symbol combinations are achieved. Alternatively, the recursive feature may continue for a predetermined number of times (e.g., based on the number of credits initially wagered by the player).

Although in the illustrated embodiment of FIGS. **9***b-c*, random, new symbols have been added to the top rows of the modified arrays **141**, **149**, it is contemplated that the symbols of the bottom rows of the modified arrays **141**, **149** may wrap around the corresponding columns and become positioned in the top rows of the modified arrays **141**, **149**.

According to another embodiment, at least one of the symbols located in the cells in the secondary array corresponding with the position of at least one of the cells containing a winning combination of symbols in the primary array cascades. Generally, in a cascade, a symbol in the primary display **14** disappears, and a symbol that is adjacent to the disappearing symbol moves and fills in the position vacated by the disappearing symbol. For example, the cascade may occur from top to bottom, meaning that the symbol above the disappearing symbol drops into the vacant position. Thus, the symbols located above the cascaded symbols shift downward. Referring back to FIG. **9***a*, for example, the farmhouse symbols **135***a,b* and the truck symbol **135***c* of the secondary array **134** corresponding with the winning combination of girl symbols **1291**-*c* of the first array **130** cascade, and the symbols above the farmhouse symbols **135***a,b* and the truck symbol **135***c* shift downward. A resulting array **147** is shown in FIG. **9***d*. The resulting array **147** may then be evaluated and a corresponding payout may be awarded. It is contemplated that this embodiment may include the recursive feature described above.

It is contemplated that the cells in the embodiment of FIGS. **9***a-d* may be shifted in other directions (i.e., up, down, left, right, or combinations thereof) by one or more cell positions. Non-limiting examples of how this direction may be determined are described above with respect to the embodiments of FIGS. **6***a-c* and **7***a-c*.

According to another embodiment, a method of conducting a wagering game is provided. The method comprises displaying an array of symbols in a primary array, the array of symbols indicating a randomly selected outcome of the wagering game on a primary display. The method further comprises, in response to the randomly selected outcome including a winning symbol combination, cascading at least one secondary symbol in a secondary array displayed on a secondary display. A position of the at least one secondary symbol in the secondary array corresponds to a position of a winning symbol of the winning symbol combination in the primary array.

According to another embodiment, a method of conducting a wagering game is provided. The method comprises displaying an array of symbols in a primary array, the array of symbols indicating a randomly selected outcome of the wagering game on a primary display. The method further comprises, in response to the randomly selected outcome including a winning symbol combination, holding at least one secondary symbol in a secondary array displayed on a secondary display while shifting other symbols within the secondary array. A position of the at least one secondary symbol in the secondary array corresponds to a position of a winning symbol of the winning symbol combination in the primary array.

Stacking or Replacing Symbols in Secondary Display

According to another embodiment of the present invention, winning symbols or non-winning symbols of an array of the primary display **14** of an initial basic game is added to a secondary array of the secondary display **16** to populate the secondary array of the secondary display **16**. The winning symbols or non-winning symbols of the array of the primary display may be duplicated on the secondary array or moved into the secondary array. Referring to FIG. **10***a*, for example, a winning combination of cow symbols **153***a-c* is achieved on a first array **155** of the primary display **14**. The winning combination of cow symbols **153***a-c* is duplicated and stacked (cow symbols **153***d-f*) onto a secondary array **157** of the secondary display **16**, as shown in FIG. **10***b*. A resulting modified secondary array **159** (FIG. **10***b*) of the secondary display **16** may then be evaluated to determine whether new winning symbol combinations have been achieved. The evaluation of the modified secondary array **159** may be undertaken when the array **159** is filled or at other times prior to the filling of the array **159**.

In the embodiment of FIG. **10***b*, each symbol in the winning combination of cow symbols **153***a-c* is duplicated and stacked in a column **161***a,b,c* of the modified secondary array **159** corresponding to a column **163***a,b,c* of the first array **155** (FIG. **10***a*) in which the winning cow symbols **153***a-c* were located. It is contemplated, however, that the symbols may be stacked in other ways (e.g., all in the same column, in randomly selected columns, etc.).

Although the secondary arrays **157**, **159** of FIGS. **10***a,b* are incomplete, it is contemplated that the symbols may be stacked in a complete array. The symbols stacked onto a complete array may, for example, push the symbols located in a bottom row off of the array so that they are no longer a component of the array.

Furthermore, although in the illustrated embodiments, the winning combination of symbols is stacked, it is contemplated that losing symbols or combinations of winning and losing symbols may be stacked. One non-limiting example includes stacking the non-winning symbols of a winning row on the array of the secondary display. Referring to FIG. **10***a*, for example, non-winning symbols **165***a,b* may be stacked in the secondary array **151**. It is contemplated that other symbols of the winning array may also be stacked (e.g., the entire row containing the winning symbol combination, etc.). It is also contemplated that the winning symbols may be duplicated and stacked vertically within a single column of the secondary array. It may be desirable for the array of the secondary display to be taller (i.e., include additional rows), as shown in the illustrated embodiment of FIGS. **10***a,b*, so that the accumulation of stacked symbols may be displayed.

According to another embodiment illustrated in FIG. **11***a*, a winning symbol combination of three aces **167***a-c* has been achieved in a first-array **168** of the primary display **14**. As shown in FIG. **11***b*, an entire row **169** including the winning

symbol combination **167***a-c* has been duplicated and stacked in a secondary array **171** of the secondary display **16**. It is also contemplated that only the winning or losing symbols may be duplicated in the secondary array **171**. According to the illustrated embodiment, each time a winning symbol combination is achieved in an array of the primary display **14**, the row including the winning symbol combination is duplicated and stacked above in the secondary array **171**.

The secondary array **171** of the illustrated embodiment becomes full and complete after five winning symbol combinations (corresponding to five rows in the secondary array **171**) are achieved on the array of the primary display **14**. Any or all active pay lines of the completed secondary array **171** may then be evaluated. It is contemplated that pay lines of the completed secondary array **171** including the duplicated/stacked winning symbol combination may be inactivated to avoid repeated payouts for the same winning symbol combinations. After evaluating the completed secondary array **171**, the symbols of the secondary array may be cleared. Evaluating the secondary display **171** after the secondary array **171** has been completely filled may provide the player with added incentive to continue playing the wagering game.

Alternatively or additionally, the secondary array **171** may be evaluated each time new symbols are added to the secondary array **171**. Moreover, once the secondary array **171** is full (i.e., each cell **70** includes a symbol), additional winning symbol combinations may be stacked, for example in the top row of the secondary array **171**, thus forcing the remaining symbols down one row. Therefore, the symbols positioned in the bottom row would be forced off of the display. It is also contemplated that the winning symbol combinations may be added to the secondary array **171** in other positions. For example, the symbols may be added to a position in the secondary array **171** corresponding to the position of the symbols in the first array **168**. In some embodiments, it is contemplated that the payout for each winning symbol combination may only occur once to avoid repeated payouts for the same winning symbol combination. In other embodiments, the gaming machine **10** may pay out for the winning combination of symbols of the initial game again.

It is contemplated that the symbols may be stacked in columns other than the columns corresponding with the column of the first array in which the winning symbols were positioned. It is also contemplated that the recursive feature described above may be applied to the embodiments of FIGS. **11***a,b*.

According to another embodiment of the present invention, when a winning combination of symbols is achieved on the array of the primary display **14**, any or all cells having a particular feature, symbol, subscript, or other indicia therein are duplicated and moved to the array of the secondary display. Turning to the illustrated embodiment of FIG. **12***a*, for example, a first array **173** of the primary display **14** includes a winning combination of club symbols **175***a-c* located on a pay line **177** corresponding with a bottom row. The player may then be awarded a bonus game in which the winning symbols of the winning combination of symbols having a balloon subscript **179** are duplicated and added to a secondary array **181** of the secondary display **16**. In the illustrated embodiment, only two of the three club symbols of the winning combination of star symbols **175***a-c* have a balloon subscript **179**. Thus, according to the embodiment of FIG. **12***b*, the two club symbols have been duplicated (i.e., club symbols **176***a,b*) and stacked in the secondary array **181**.

It is contemplated, however, that any or all of the symbols in the winning first array **173** having a balloon subscript **179** may be duplicated or moved and added to the secondary array **181**. Furthermore, it is contemplated that other indicators may be used to determine which symbols from the winning first array **173** are added to the secondary array **181**. Although in the illustrated embodiments of FIGS. **12***a,b*, the secondary array of the secondary display **16** is initially empty, it is contemplated, that the secondary array may include symbols stacked during previous games and/or by previous players, etc. Thus, the array of the secondary display **16** may be full or partially full. The symbols from the primary array may then be stacked above or below the existing symbols of the secondary array, thereby forcing the existing symbols of the secondary array up or down, respectively.

Referring now to FIGS. **12***c,d*, winning club symbols **185***a,c* having a balloon subscript **186** thereon in an array **187** are duplicated and/or moved to positions in a secondary array **189** corresponding to the positions of the winning club symbols **185***a,c* in the primary array. In the embodiment of FIG. **12***c*, the secondary array **189** is initially full (i.e., all of the cells include at least one symbol). Thus a heart symbol **193** and a spade symbol **195** of FIG. **12***c* positioned in cells corresponding to the position of the star symbols **185***a,c* are removed and replaced by the duplicated club symbols **191***a,b*, as shown in FIG. **12***d*.

It is contemplated that at least one symbol of the secondary array **181**, **189** may include a subscript. Thus, according to one embodiment, if the duplicated symbols that have been moved into the secondary array **181**, **189** cause a winning symbol combination to be created, a recursive feature, as described above, may be triggered.

According to another embodiment, a method of conducting a wagering game having a randomly selected outcome is provided. The method comprises displaying a plurality of symbols in a first array indicating the randomly selected outcome. The method further comprises, in response to a winning outcome being indicated by a first winning symbol combination, duplicating at least one symbol to create at least one duplicated symbol. The method further comprises populating a secondary array displayed on a secondary display with the at least one duplicated symbol in a predetermined fashion. The method further comprises, in response to the populating, providing an additional award for a second winning symbol combination that is present in the secondary array.

Although in the illustrated embodiments, a winning combination is shown to trigger a bonus game or spin, it is contemplated that other predetermined criterion may also be used. Furthermore, although in the illustrated embodiments, the winning symbol combinations are positioned on pay lines, it is contemplated that the winning symbol combinations may be positioned elsewhere within the array. For example, the symbols of the winning symbol combinations may be scattered, adjacent to each other, or the like. Furthermore, it is contemplated that an additional and/or side wager may be required to participate in any or all of the bonus games described herein.

Additionally, while the illustrated embodiments of the present invention are generally shown using a video display, it is contemplated that a transmissive display may also be used with any of the embodiments described above to enhance the of the movement of the symbols. It is also contemplated that the embodiments utilizing a primary display and a secondary display may use, for example, mechanical reels in the primary display and video reels in the secondary display.

Each of these embodiments and obvious variations thereof is contemplated as falling within the spirit and scope of the claimed invention, which is set forth in the following claims.

What is claimed is:

1. A method of conducting a wagering game on a gaming system with an input device and a display device, the method comprising:

receiving a wager input via the input device;

displaying, via the display device, an array of cells populated with a plurality of symbols, the displayed array including a playable portion and a non-playable portion, wherein the playable portion includes a first subset of the symbols displayed in the array and the non-playable portion includes a second subset of the symbols displayed in the array, the first subset of symbols indicating a first randomly selected outcome of the wagering game;

after displaying the array of cells populated with the plurality of symbols, determining if the first randomly selected outcome of the wagering game in the playable portion includes a first winning symbol combination;

in response to the first randomly selected outcome of the wagering game in the playable portion including the first winning symbol combination, designating within the displayed array of cells a first modified playable portion including a third subset of the plurality of symbols displayed in the array, the third subset of symbols indicating a second outcome of the wagering game, the first modified playable portion including at least one first new cell from the non-playable portion;

determining if the second outcome of the wagering game in the first modified playable portion includes a second winning symbol combination; and

in response to the second outcome of the wagering game in the first modified playable portion including the second winning symbol combination, designating within the displayed array of cells a second modified playable portion including a fourth subset of the plurality of symbols displayed in the array, the fourth subset of symbols indicating a third outcome of the wagering game, the second modified playable portion including at least one second new cell from the non-playable portion,

wherein the symbols populating the playable portion, the non-playable portion, the first modified playable portion, and the second modified playable portion are displayed simultaneously in the displayed array of cells.

2. The method of claim **1**, wherein a respective number of new cells from the non-playable portion included in each of the first and second modified playable portions depends, at least in part, on the value of the wager input.

3. The method of claim **1**, wherein the first and second modified playable portions each has the same number of cells as the playable portion.

4. The method of claim **1**, wherein, prior to designating the first modified playable portion, at least one active cell in the playable portion is deactivated, and the method further comprises activating the at least one first new cell from the non-playable portion.

5. The method of claim **1**, wherein the non-playable portion and the playable portion are continuously displayed prior to and after designating the first and second modified playable portions.

6. The method of claim **1**, wherein a player selects the at least one first and second new cells from the non-playable portion to be included in the first and second modified playable portions.

7. The method of claim **1**, wherein the at least one first and second new cells each includes a respective plurality of cells that form an additional row of cells of the first and second modified playable portions.

8. The method of claim **1**, wherein the third and fourth subsets of symbols in the second and third outcomes of the wagering game each includes one or more of the symbols in the first outcome of the wagering game.

9. The method of claim **8**, wherein the display device includes a plurality of movable reels with the plurality of symbols populating the array, and wherein the at least one first and second new cells each includes a respective additional column of cells located on one of the plurality of movable reels positioned adjacent to the playable portion.

10. The method of claim **1**, further comprising:

sequentially randomly highlighting different cells within the non-playable portion;

in response to receiving a stop command from a player, stopping the randomly highlighting such that one or more cells of the non-playable portion are highlighted,

wherein the at least one first new cell to be included in the first modified playable portion is the one or more highlighted cells of the non-playable portion.

11. A computer program product comprising a non-transient computer-readable storage medium encoded with instructions, the instructions being configured to cause a gaming system, upon execution by one or more controllers, to complete the acts of:

receiving an indication of a wager input to play a wagering game;

displaying an array of cells populated with a plurality of symbols, the displayed array including a playable portion and a non-playable portion, wherein the playable portion includes a first subset of the symbols displayed in the array and the non-playable portion includes a second subset of the symbols displayed in the array, the first subset of symbols indicating a first randomly selected outcome of the wagering game;

after displaying the array of cells populated with the plurality of symbols, determining if the first randomly selected outcome of the wagering game in the playable portion includes a first winning symbol combination;

in response to the first randomly selected outcome of the wagering game in the playable portion including the first winning symbol combination, designating within the displayed array of cells a first modified playable portion including a third subset of the plurality of symbols displayed in the array, the third subset of symbols indicating a second outcome of the wagering game, the first modified playable portion including at least one symbol from the non-playable portion;

determining if the second outcome of the wagering game in the first modified playable portion includes a second winning symbol combination; and

in response to the second outcome of the wagering game in the first modified playable portion including the second winning symbol combination, designating within the displayed array of cells a second modified playable portion including a fourth subset of the plurality of symbols displayed in the array, the fourth subset of symbols indicating a third outcome of the wagering game, the second modified playable portion including another at least one new cell symbol from the non-playable portion,

wherein the symbols populating the playable portion, the non-playable portion, the first modified playable portion, and the second modified playable portion are displayed simultaneously in the displayed array of cells.

12. A gaming system comprising:

an input device configured to receive a wager input to play a wagering game;

a display device configured to display an array of cells including a playable portion and a non-playable portion shown continuously with the playable portion; and

one or more controllers operatively connected to the display device, the one or more controllers being configured to:

(i) direct the display device to populate the array of cells with a plurality of symbols, the playable portion and the non-playable portion each including a respective subset of the symbols displayed in the array, the respective subset of symbols of the playable portion indicating a randomly selected outcome of the wagering game;

(ii) after the array of cells are populated with the plurality of symbols, determine if the randomly selected outcome of the wagering game in the playable portion includes a winning symbol combination;

(iii) responsive to the randomly selected outcome of the wagering game displayed in the playable portion including the winning symbol combination, direct the display device to designate within the displayed array of cells a modified playable portion including another respective subset of the plurality of symbols displayed in the array, the respective subset of symbols of the modified playable portion indicating a modified outcome of the wagering game, the modified playable portion including at least one new cell from the non-playable portion;

(iv) determine if the modified outcome of the wagering game in the modified playable portion includes another winning symbol combination;

(v) responsive to the modified outcome of the wagering game displayed in the modified playable portion including another winning symbol combination, direct the display device to designate within the displayed array of cells another modified playable portion including yet another respective subset of the plurality of symbols displayed in the array indicating another modified outcome of the wagering game, the another modified playable portion including another at least one new cell from the non-playable portion; and

(vi) repeat steps (iv) and (v) until the modified outcome of the wagering game in the modified playable portion does not include another winning symbol combination, a threshold number of modifications is reached, or both,

wherein the symbols populating the playable portion, the non-playable portion, and the modified playable portions are displayed simultaneously in the displayed array of cells.

13. The gaming system of claim 12, wherein the one or more controllers are further configured to:

(vii) responsive to the randomly selected outcome of the wagering game displayed in the playable portion including the winning symbol combination, direct the display device to sequentially randomly highlight different cells within the non-playable portion; and

(viii) responsive to receiving a stop command from a player, direct the display device to stop the randomly highlighting such that one or more cells of the non-playable portion are highlighted,

wherein the at least one new cell to be included in the modified playable portion is the one or more highlighted cells of the non-playable portion.

14. The gaming system of claim 12, wherein each of the at least one new cells to be included in each of the modified playable portions is randomly selected by the one or more controllers.

15. The gaming system of claim 12, wherein a respective number of new cells from the non-playable portion included in each of the modified playable portions depends, at least in part, on the value of the wager input.

16. The gaming system of claim 12, wherein each of the modified playable portions includes all of the cells of the playable portion.

17. The gaming system of claim 12, wherein each of the modified playable portions is the same number of cells as the playable portion.

18. The gaming system of claim 12, wherein each of the modified playable portions includes all of the symbols displayed in the playable portion.

19. The gaming system of claim 12, wherein each of the at least one new cells can be any of a single new cell, multiple new cells, an additional row of new cells, or an additional column of new cells of the non-playable portion.

* * * * *

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : 8,419,519 B2
APPLICATION NO. : 12/299567
DATED : April 16, 2013
INVENTOR(S) : Aoki et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On the Title Page:

The first or sole Notice should read --

Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 800 days.

Signed and Sealed this
First Day of September, 2015

Michelle K. Lee

Michelle K. Lee
Director of the United States Patent and Trademark Office